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Quantitative guidelines for use in determining the audiovisual (AV) needs of educational institutions were developed by the October 14-16, 1965 Seminar of the NDEA (National Defense Education Act), Faris-Sherman study. The guidelines that emerged were based in part on a review of past efforts and existing standards but primarily reflected the diverse and extensive experience of the audiovisual experts participating. Tentative standards were presented to the Department of Audiovisual Instruction, National Education Association for endorsement. A preliminary distribution of thousands of copies of the interim report was made to schools, industries, professional societies, and accrediting agencies. Subsequently, a questionnaire study elicited opinions on the value of standards and their strengths and weaknesses from AV specialists throughout the country. The majority of statements (597) gave the standards a four-point rating on a five-point scale of "helpfulness." A series of case studies in progress to provide a further in-depth comparison of the standards with the AV usage of a national sample of schools and colleges is described. Appendices include the preliminary and final versions of the quantitative standards. (SS/MF)

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FINAL REPORT
Project Number 5-0265
Contract Number: OE-5-16-021

A STUDY TO FORMULATE QUANTITATIVE GUIDELINES FOR THE AUDIO-VISUAL COMMUNICATIONS FIELD.

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August 1968

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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I. INTRODUCTION

At all echelons of our educational system increased attention is being focused on the role of educational media in the learning process. Educators are becoming cognizant of the fact that new approaches to the solution of both perennial and emerging instructional problems hold a key to the future. They recognize that traditional methods of instruction are no longer sufficient to cope with such problems as the "population and knowledge explosions." As new instructional approaches are explored, attention inevitably turns to the newer media; however, due to a variety of reasons, all too frequently this attention does not result in the type of action originally anticipated. One of the major reasons for this is the lack of any generally accepted guidelines or standards to follow in establishing or expanding a media oriented instructional program.

In the first issue of Audio-Visual Communication Review in 1953, James D. Finn discussed the importance of standards to any profession and in particular to the audio-visual field. He pointed out that the adoption of standards was among the six characteristics of a profession. At the time of Finn's writing, DAVI had a committee dealing with the problem of standards but 13 years were to pass before actual standards on a national level were to come into existence. This was understandable for there was reluctance on the part of many in the field who questioned the wisdom of adopting standards when the logical approach to obtain media was to procure these according to need when the need was clearly established. Visits to a number of schools, however, will reveal as they have to the writers that needs simply are not always recognized or given attention. The very existence of accrediting agencies is evidence that some types of needs are not given the attention they warrant. Those who exhibit a reluctance to obtain equipment and materials until the need and readiness have been clearly established might contemplate Ann Hyer's observation:

> And while the quantity of audio-visual materials and equipment must be geared to the state of teaching art, I firmly believe that the supply of AV materials should be a step ahead of teachers rather than a step behind or merely in step with demands. I have little patience with those who say we shouldn't invest in language labs until all of our teachers know how to use them. They remind me of a neighbor

> who told her daughter to put her violin away
> until she learned to play it..."[1]

Dr. Hyer's position reflects the attitude taken by a number of individuals and organizations long before the foregoing statement was printed.

That the need for some type of guidelines or standards was recognized is evidenced by the action taken by several states. Ann Hyer in the December, 1961, issue of Audio-Visual Instruction listed audio-visual equipment standards for California, Indiana, Hawaii, AVCOPI and the Southern Section of California. Within these states some cities with energetic Audio-Visual Coordinators had formulated their own standards and in some instances large individual schools were developing their own also. At the time they were developing their own, however, individual schools were pleading for city-wide standards, the cities for state-wide and the states by and large requested national standards. This was not difficult to understand. Administrators of local institutions often asked, "What are other institutions doing? Are our requests for quantities of materials and equipment at great variance with others?" Even those administrators who were willing to go to great lengths to provide whatever was needed for a superior school system desired some type of national guidelines against which to measure theirs.

The need for national standards became even more urgent as federal funds for the procurement of audio-visual equipment and materials became available. Administrators and AV Directors at all levels needed to know "yesterday" what quantities of personnel and equipment were needed for their programs. The classical approach to determining objectives and procedures for the instructional program and then deciding upon supporting instrumentation just wouldn't do. Those who couldn't accurately estimate - and there were plenty who felt they needed expert help and national support - had to make decisions or be in the unenviable position of observing others obtain media while their schools did without.

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[1] Ann Hyer, "Setting Quantitative Standards," Audiovisual Instruction, December, 1961, p. 506.

In addition to meeting the urgent needs as described above, national standards serve a number of other functions. Some of the most obvious are as follows:

1. They call attention to the technological resources that should help a technological society solve one of its most pressing problems - efficient instruction of the people at all ages.

Standards accepted nationally are a constant reminder that these resources can no longer be ignored. Schools which have no program are stimulated to establish one and those with an existing program are encouraged to improve it.

2. Quantitative standards support the efforts of school administrators who wish to move to a level where a functioning program at least is attained. School administrators usually appreciate the supportive evidence of national standards in justifying the added expenditures needed for an innovative or exemplary program.

3. Standards can accelerate a movement toward a balanced program of instructional resources. A surprising number of otherwise good schools often overlook some of the types of media which could contribute to a wide variety of instructional situations. A school which thinks primarily in terms of group instruction might put its efforts and financial resources in 16mm motion pictures, overhead projectors, television or similar large group instrumentation. While these are excellent and much needed tools, standards also call attention to the use of 8mm motion pictures, filmstrip viewers and other media and arrangements for individual viewing.

4. Standards encourage the school to obtain types of materials and equipment with which teachers then experiment. In this way they bring innovation into methodology. The importance of this is recognized by the National Association of Secondary School Principals when they state:

> ...changes in educational practice may be made by modifying the tools with which teachers and administrators work. For example, changes in instructional practice may result from modifying teaching materials and instructional instruments. Likewise, changes in administrative practice may be brought about by the introduction of various

> machines and communication devices. Some of the most radical changes, such as ways of teaching reading, have been wrought through making new sorts of instruments and materials available to teachers and administrators...actual changes are more often produced through legislative action and the introduction of new materials than by any other means..."[2]

The case for the establishment of quantitative standards for the audio-visual field would not be complete unless mention were made of some changing emphases in education which have very definite implications for intelligent application of standards. Among these changes are:

From	To
Media as an aid to the instructor	Media as resources for the learner and the instructor
Media as additive or supplementary	Media as basic instructional material
Isolated, piecemeal AV aids	Integrated, systematized media and procedures
The group	The individual and varying size groups
Memorization	Inquiry and logical processes

It may be deduced from the above that schools which tend toward the emphases in the right column will require a different balance of media than that provided by the standards. However, regardless of the emphasis of a particular program or school a media baseline is needed from which to start. This study was oriented toward the establishment of such a base.

[2] B. O. Smith, "The Nature of Change," National Association of Secondary School Principals, Reprinted from the Bulletin, NASSP, May 1963, p. 7.

II. PURPOSE OF THE STUDY

The general purpose of this project was to formulate quantitative guidelines for the audio-visual communications field for use in elementary and secondary schools and institutions of higher learning. Stated more specifically the anticipated outcomes of the study were:

1. To develop a rationale for determining audio-visual needs in elementary and secondary schools and institutions of higher learning.

2. To determine audio-visual materials needs for elementary and secondary schools and institutions of higher learning.

3. To determine personnel needs for conducting an audio-visual program in elementary and secondary schools and institutions of higher learning.

4. To determine the monetary needs for conducting an audio-visual program in elementary and secondary schools and institutions of higher learning.

5. To determine audio-visual equipment needs for elementary and secondary schools and institutions of higher learning.

III. THE DEVELOPMENTAL PROCESS

The initiation of the study involved a review of past efforts to establish quantitative standards for the audiovisual field. This information was collected and collated by the investigators in preparation for that aspect of the study labelled Seminar I. The purpose of the seminar was to bring together a group of leaders in the media field who had some knowledge of and interest in the formulation of personnel, equipment, budget and materials quantitative guidelines for the establishment of programs in the audiovisual communications field. Twelve individuals were selected to work with the co-investigators in this phase of the study.

Seminar I was held from October 14-16, 1965. The individuals participating, in addition to the investigators, were:

TED COBUN, Director, Audiovisual Education, Niles Township Community High Schools, Skokie, Illinois
AMO DeBERNARDIS, President, Portland Community College, Portland Public Schools, Portland, Oregon
PAUL FLYNN, State Supervisor, Audiovisual Education, North Carolina State Department of Public Instruction, Raleigh, North Carolina
WILLIAM FULTON, Professor of Education, University of Oklahoma, Norman, Oklahoma
ROBERT GERLETTI, Director, Division of Audiovisual Education, Los Angeles County Schools, Los Angeles, California
HARRY JOHNSON, Director, Audiovisual Center, Virginia State College, Petersburg, Virginia
WILLIAM KING, State Supervisor, Department of Education, State Department of Education, Trenton, New Jersey
MARCUS KONICK, Director, Bureau of Instructional Materials, Pennsylvania Department of Public Instruction, Harrisburg, Pennsylvania
JAMES MEAGHER, Coordinator, Audiovisual Instructional Materials, Penfield Central Schools, Penfield, New York
LESLIE NELSON, Professor of Education, California State College, Los Angeles, California
WILLIAM PRIGGE, Director, Audiovisual Department, Illinois State College, Normal, Illinois
LEROY SIMONSON, Administrative Assistant, Fort Dodge Schools Fort Dodge, Iowa

In addition to selecting individuals who had in one way or another demonstrated competence in the area of this study, an effort was made to select participants with a strong background in elementary, secondary or higher education. On the basis of this selection criterion, approximately equal representation from the three levels of education was obtained.

The seminar was structured to take full advantage of the background and experience of each participant. The strategy employed started with a general orientation session followed by the formulation of three committees according to the three educational levels utilized in the selection process. Each committee was then provided with all available information concerning earlier standards established at state or local levels as well as other related information that might be of help in formulating quantitative guidelines for audiovisual personnel, equipment, budget, and materials.

The committees approached the problem by working independently for a period of time to establish tentative guidelines for one area, i.e. equipment, as these would apply to their particular specialization - elementary, secondary or higher education. Upon completion of the tentative reports, the three committees met as a committee of the whole. During this session the groups discussed the various recommendations, striving to achieve some overall consistency in the final product. The same procedure was followed for each of the four major areas of concern. After three days and nights of meetings, discussions and modifications, the participants produced a document that all were willing to approve. The recommendations agreed to by the seminar participants are presented in Appendix A.

Action - Department of Audio-Visual Instruction, NEA

For the recommendations resulting from Seminar I to have maximum influence on educational practices in the United States, it appeared necessary, if not essential, for the audio-visual field to endorse the document. The Department of Audio-Visual Instruction of the National Education Association appeared to be the most logical channel for securing an endorsement. Consequently, the tentative standards were presented at the DAVI Board of Directors' Meeting in October, 1965. After some discussion, the recommendations of Seminar I were accepted by the Board as the official quantitative guidelines for the audiovisual field.

Following the above action by the Department of Audio-Visual Instruction, the Second Conference of the Study in the Development of Cooperative Leadership in Educational Media, consisting of 38 State Department of Education Commissioners, or their appointed representatives, and the chief state audio-visual officers, unanimously agreed to accept the guidelines, with some slight modifications, as the official recommendations of their organization.

The next official action taken on the guidelines occurred at the Executive Committee meeting of the Association of Chief State School Audio-Visual Officers in December, 1965. At a meeting in Chicago, the guidelines as revised by the conference mentioned above were adopted by ACSSAVO as standards rather than guidelines.

With the above action, plus the position taken by DAVI, there was an immediate demand from schools and industry for copies of the guidelines. To satisfy this expression of need, the investigators requested permission from the U.S. Office of Education to release an interim report on the project. Permission was granted in late December, 1965, and thousands of copies of the interim report were distributed by DAVI and the National Audio-Visual Association. (See Appendix B) Many state departments also reproduced copies of the standards and distributed them statewide. (See sample in Appendix C) It should be noted that the investigators were sensitive to the skeletal nature of the published report, but after serious consideration of the pros and cons concerning the interim report, deemed the above action was best for the field of education.

Other efforts were undertaken by the investigators to get national exposure of the standards. Considerable time and energy were devoted to meeting with representatives of various regional accrediting associations. The major purpose of these meetings was to bring the standards to the attention of the associations and offer copies of the standards for use as each organization might deem best. In this phase of the study, meetings were held with the following accrediting groups:

(1) North Central Association - Meeting in Chicago with Dr. Gordon Cawelti, Executive Secretary of the NCA, and The Research Committee of the NCA.

(2) Southern Accrediting Association - Meeting with Mr. Roy Smith, Chairman of Standards Committee for Secondary Schools, in Owensboro, Kentucky.

Meeting with Dr. Thomas Landry, Executive Officer, Committee on Elementary Education, Louisiana State University, Baton Rouge, Louisiana.

(3) Middle States Association of Colleges and Secondary Schools - Meeting with Dr. Albert I. Oliver, Chairman of Association, in Philadelphia.

(4) New England Association of Colleges and Secondary Schools, Inc. - Meeting with Mr. Ralph O. West, Director of Evaluation, Boston, Massachusetts.

(5) Western Association of Schools and Colleges - Dr. L. W. Hedge, Executive Secretary, Burlingame, California.

In addition to the above groups, individual conferences were held with representatives of the following organizations or professional associations to discuss the possible contributions of the standards in each field represented.

1. National Council for the Accreditation of Teacher Education
2. Title II, ESEA, Office
3. American Association of School Librarians
4. Department of Secondary School Principals
5. Department of Urban Services, NEA
6. Department of Rural Education, NEA
7. National Association of Chief State School Officers
8. National Association of Secondary School Principals
9. American Association of School Administrators

Representatives of The Federation of Regional Accrediting Commissions of Higher Education, the Northwest Association of Secondary and Higher Schools and the National Study of Secondary School Evaluation were contacted by mail and copies of the standards forwarded to them.

The numerous contacts made with individuals representing the professional organizations noted above proved to be extremely productive. Although the standards were not adopted by the various groups, in every case favorable reactions were expressed concerning their usefulness as guidelines in evaluating or developing audio-visual programs in member or prospective member schools.

The Case Studies

The original plan of the study called for a number of case studies that would help document the need for audiovisual personnel, materials, equipment and financial support as recommended in the established guidelines. This aspect of the study was to be completed prior to releasing the results of the investigation; however, as noted earlier, permission was granted to publish an interim report on the recommended standards. Even though this action was taken, the investigators felt that it was still necessary to support the recommendations of the study as proposed originally. This position was changed later in the study due to a shift in the procedures followed. Although the case studies are not reported in detail in this final report, the procedures followed in identifying the schools studied are noted below.

1. A questionnaire was mailed to the chief audiovisual officer in each state requesting information concerning educational institutions in the state with audiovisual programs that could be utilized as exemplars of one or more of the recommendations resulting from this study.

2. The procedure in #1 above was utilized in soliciting information from leaders in the audiovisual field.

3. Information secured by Mrs. Mickey Bloodworth, Department of Audio-Visual Instruction, in a national study that identified schools noted for innovative educational practices.

4. The educational institutions identified by the above procedure were asked to complete a questionnaire and return it to the investigators. (See Appendix D) The information on the returned questionnaires was utilized in selecting schools or colleges to be studied in depth and for possible inclusion in the study as a case example.

IV. EVALUATION OF THE STANDARDS

While conducting the case studies, two questionnaire studies were conducted to determine the reactions to the standards by specialists in the audiovisual field. One study was undertaken by the investigators, the other by the Association of Chief State School Audio-Visual Officers.

In December, 1966, approximately one year after the original release of the standards, the investigators mailed a questionnaire (See Appendix E) to 100 audiovisual specialists throughout the country and to all ESEA Title II directors. A total of 93 questionnaires were returned. Responses to the questions posed are presented below.

The respondents were first asked to indicate, on a six point scale, the value of the standards for the audiovisual field. The information in Table I shows that 59% of the responses fell in the very helpful category. Ninety-five per cent of those returning the questionnaire checked one of the top three ratings, the remaining five per cent falling in the "of limited value" category.

TABLE 1. RESPONSES IN PERCENTAGES TO THE STATEMENT, "IN GENERAL THE ATTACHED QUANTITATIVE STANDARDS FOR THE AUDIO-VISUAL COMMUNICATIONS FIELD HAVE BEEN:"

Extremely Helpful	Very Helpful	Of Moderate Value	Of Very Limited Help	Of Doubtful Value If Any	Worthless
23%	59%	13%	5%		

Four open ended questions were included in the questionnaire. The first of these sought responses concerning the strong aspects of the standards. A great variety of reactions were noted. Only the most frequently mentioned strong aspects of the standards are reported here.

TABLE 2. STRONG ASPECT OF STANDARDS AS INDICATED BY AUDIO-VISUAL SPECIALISTS AND TITLE II DIRECTORS.

Response	Number of Times Mentioned
The equipment standards	20

TABLE 2. STRONG ASPECT OF STANDARDS AS INDICATED BY AUDIO-VISUAL SPECIALISTS AND TITLE II DIRECTORS.

Response	Number of Times Mentioned
The fact that standards exist	17
Give prestige to the field	17
A place to begin and something to strive for	16
The two levels	14
Realistic	10
Scope	9

Another question pertained to the weak aspects of the standards. The most frequently mentioned item (11 responses) in this category indicated a need for more specific recommendations concerning audiovisual materials. Not flexible enough was noted by six individuals and too low was indicated by five. The suggestion to add television and library standards to the publication was submitted by four individuals, as was the feeling that the standards were unrealistic.

The third question asked the respondents to comment on the ways the standards had affected the instructional program in their schools. A large number of comments was made to this question with the four listed below being mentioned most frequently. The number following each item indicates the number of individuals making the responses.

1.	Used for self-evaluation and program planning	16
2.	Used to plan for federal programs	14
3.	Improved administrative support for program	12
4.	Provided basis for revising state standards	6

The last question allowed the respondents to suggest changes that should be made in the standards. Very few suggestions were received, with "revise regularly" mentioned five times and "stress quality" appearing on three questionnaires.

As mentioned previously, another questionnaire study was conducted by the Association of Chief State School Audio-Visual Officers. The purpose of the study was to assess the impact of the standards as viewed by the members of their national organization. The results of the study are presented in Table 3.

TABLE 3. RESPONSES FROM 41 STATES CONCERNING AUDIO-VISUAL STANDARDS

1. Standards were distributed statewide as

30 a. Recommended guidelines
0 b. Standards

2. Standards were

8 a. Adopted as published
11 b. Revised
15 c. Evaluated but no decision reached

3. Standards were adopted by

9 a. The Department of Education
3 b. State Board of Education
14 c. State audiovisual association
5 d. Other agencies

4. Standards were employed as a base for state planning for

0 a. School and college subsidies
10 b. School and college evaluation
20 c. NDEA Title III
13 d. ESEA, Title I
22 e. ESEA, Title II
11 f. ESEA, Title III
3 g. Higher Education Act, Title VI
6 h. Other

5. For our use, standards in general were

5 a. Too High
29 b. About Right
0 c. Too Low

A Move Toward Joint Audio-Visual and Library Standards

At this point the original plan for the study called for a second seminar to be composed of representatives from various professional education associations and accrediting groups. The goal of the seminar was that of refinement of the standards. This procedure was altered somewhat as a result of a request from the American Association of School Librarians that AASL and the Department of Audio-Visual Instruction combine forces to establish joint media standards. The procedure suggested for this joint project included two seminars similar in purpose to the second one planned as a part of this study. In addition, the new venture would enable additional professionals from the media field to further refine the standards developed during the course of the original investigation. Recognizing the benefits that might accrue by joining forces with AASL in the development of joint standards, the investigators requested an extension of the original contract for the purpose of supporting the cooperative effort. The extension was approved and the study was adjusted accordingly. It should be noted at this point that the media standards to be developed with the library field were to apply to elementary and secondary education programs only. Therefore, the audio-visual standards developed for institutions of higher learning would not be altered by the AASL-DAVI project.

The first step in the new venture was the presentation of the audio-visual standards developed as a part of this study and the 1960 standards for school library programs to a seminar composed of representatives from 29 professional education organizations. Many significant reactions were received from this group concerning the joint plan of action and the standards in their present state. There was also overwhelming approval by this group of the cooperative effort.

Following the above mentioned seminar, a joint committee of representatives from the library and audio-visual fields was appointed to move forward with the project. The co-investigators were members of a 13 member team representing the audio-visual field. The joint committee met on four different occasions to develop the school media standards. In addition, an editorial sub-committee was appointed to put into writing the recommendations of the larger group. The final draft of the joint committee's recommendations was presented to the original Advisory

Committee and to the Boards of Directors of the respective organizations for their official action. A copy of the media standards developed by the joint DAVI-AASL Committee appears in Appendix F.

V. SCHOOL VISITATIONS

During the progress of the project, the co-directors visited a total of 41 individual schools for the following purposes:

(a) to observe and describe exemplary uses of media in relation to the quantitative standards recommended herein.

(b) to identify practices, trends or emerging emphases in instructional programs which would affect the application of the present standards and perhaps indicate modifications for the future.

The schools visited were selected as being among the best in the country with respect to some aspect of the standards. None, at the time of the visits, claimed to meet all, or even a majority, of the standards recommended in this study. Each school, however, was engaged in at least one frontier media activity which demonstrated the contribution of media and trained media specialists to the instructional program. The schools visited were also providing leadership in a number of emerging emphases in education.

VI. CONCLUSIONS

As a result of the visitations, the following observations seem to be warranted.

1. Future standards will be very different from those presently formulated in this report. The need for constant study and revision of the standards is a must.

2. There is considerable justification in Dr. John I. Goodlad's remark in the December 1966 NEA Journal that "..... one often gets the almost eerie impression huge clouds of educational reform drifting back and forth from coast to coast, and only occasionally touching down to blanket an educational institution..."[3]

3. Media specialists of every variety are needed in the various educational institutions. Included are those with strengths in curriculum, administration, and media. The graphic specialist is in great demand; the more he brings in basic information concerning communication theory, message design, curriculum, and research the more valuable he seems to be.

A recognition of the need for media specialists who can initiate research and innovative practices is beginning to grow. Those who have written successful research proposals seem especially valued. At the elementary level the instructional media specialist with qualifications in both library science and audio-visual seems to be one of the emerging types of media specialists. At the high school level there seems to be a separation between the two but close working relations exist.

4. The importance of the school administrator was quite evident. Wherever there was a highly successful program, the principal was enthusiastic and well informed about the program. In some instances the principal had taken an audio-visual course from which he had emerged with a missionary spirit, matched only by that of the AV coordinator.

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[3] John I. Goodlad, NEA Journal, December 1966

5. While provisions for individual and small group learning were evident in some of the classrooms and instructional materials centers, media were used, by and large, for teacher presentations. Increased attention and emphasis upon the learner remains a great need.

6. Some of the schools which were actively engaged in centralizing media and equipment a few years ago are now in the process of decentralizing as much as is feasible. This seems to be due partly to the increase in the amounts of media available and to the need for time for the media specialist to consult with teachers about their needs. Also some departments have specialized needs in equipment and materials which precludes the circulation of these to other departments or teachers.

7. Some of the schools which were leading in innovative uses of media 4 or 5 years ago are less innovative than schools whose efforts are more recent. It seems to take a spirit of constant innovation rather than a few innovative spurts to remain on the media frontier.

8. Students in language laboratories give the impression that unless carefully supervised and helped they will lapse into listless, careless, and inaccurate responses to the stimulus material on the tapes. Where enthusiastic teachers were supervising the language laboratories, the students also seemed enthusiastic and interested.

9. Very few schools visited had what one could term a well-balanced audio-visual program. While outstanding in one or several aspects of a program, they were severely handicapped in others. A crucial need is that of an adequate supply of "software" which fits both the equipment and the curriculum. One school, which incidently had not yet employed an AV coordinator, provided overhead projectors for almost every classroom. They were being used exclusively as a convenient chalkboard and nothing more.

10. Many of the schools were in the process of "tooling up" with assistance from federal funds. Although some results are evident, it is anticipated that the next two years will show significant results if the following are among the conditions which pertain:

a. The administrator is an enthusiastic supporter of the program.

b. The AV specialists are sufficient in number and have a broad communication training in addition to a specialty or two within the media field.

c. A systems approach is applied wherever possible to ensure the procurement of media that meet specific objectives in the instructional program.

d. An adequate supply of media is procured.

e. A continuous in-service training program is conducted.

Finally, although different visitors to the same schools would have different perceptions, it is probable that all would notice the great need for media specialists with a variety of skills and experiences. With the eager attention being turned by administrators to the media field there is greater opportunity than at any time in the past. To meet the challenge AV specialists whether in training or in service will need to take every opportunity to upgrade their knowledge and to spread into new areas that have become part of the media domain.

BIBLIOGRAPHY

1. Goodlad, John, "Directions of Curriculum Change," NEA Journal, December, 1966, pp. 33-37.

2. Hyer, Anna, "Setting Quantitative Standards," Audiovisual Instruction, p. 506, December, 1961.

3. Smith, B. O., "The Nature of Change," Bulletin of the National Association of Secondary School Principals, p. 7, May, 1963.

APPENDIX A

QUANTITATIVE STANDARDS FOR AUDIOVISUAL PERSONNEL, EQUIPMENT AND MATERIALS

(In Elementary, Secondary, and Higher Education)

Developed by Dr. Gene Faris and Dr. Mendel Sherman, Audiovisual Center, Indiana University, as part of a study conducted under the auspices of the United States Office of Education, National Defense Education Act, Title VII, Part B program.

Adopted By

The Department of Audiovisual Instruction, NEA, at the Board of Directors Meeting in Washington, D.C., on October 30, 1965

and

The Association of Chief State School Audiovisual Officers at the Executive Board Meeting in Chicago on December 14, 1965

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FOREWARD

Administrators of audio-visual programs have long recognized that the lack of nationally established standards has been a major deterrent to an adequate supply of properly utilized materials and equipment. Numerous efforts have been made at local levels to establish standards but these have been relatively ineffective. Even while formulating their own individual school standards, audio-visual coordinators were pleading for city-wide standards, the cities for state-wide, and, for the past decade at least, states have requested national standards.

The standards in the pages which follow represent a stage in a study to "Formulate Quantitative Guidelines for the Audio-Visual Communications Field." This study by Dr. Gene Faris and Dr. Mendel Sherman is in progress under the auspices of an NDEA VII research contract. The final research report will include a rationale for the standards in addition to visualized case studies of several schools which approximate the standards. Four main categories are included in the standards: personnel, materials, equipment, and budget.

The standards have progressed through seven stages in their preparation:

1. A tentative set of quantitative guidelines for selected materials and equipment were formulated by a national committee at the 1963 annual conference of the Department of Audiovisual Instruction.

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    TED COBUN, Director, Audiovisual Education
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    AMO DeBERNARDIS, President, Portland Community College
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    PAUL FLYNN, State Supervisor, Audiovisual Education
        North Carolina State Department of Public Instruction
        Raleigh, North Carolina
    WILLIAM FULTON, Professor of Education, University of
        Oklahoma, Norman, Oklahoma
    ROBERT GERLETTI, Director, Division of Audiovisual Education,
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HARRY JOHNSON, Director, Audiovisual Center, Virginia State College, Petersburg, Virginia
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MARCUS KONICK, Director, Bureau of Instructional Materials, Pennsylvania Department of Public Instruction, Harrisburg, Pennsylvania
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In three days of deliberation, members of the Seminar studies earlier standards and guidelines which had been formulated by various organizations through the years. Their own vast experiences and constant contact with the field, however, constituted the major resources for the final decisions which were made.

Specified quantities of materials, equipment, and budget and statements related to personnel were placed in columns designated as "basic" and "advanced."

The "basic" specifications represent quantities needed for a functioning program in a school. Many schools are well beyond the basic stage, however, with some exceeding the "advanced" stage in their determination to achieve excellence. It is anticipated that some schools, especially those experimenting with new approaches, may well exceed the "advanced" stage in some categories and perhaps fall behind in others. While such flexibility is desirable, seminar participants and members of the organiztion who have accepted these standards emphasized the need for a balanced program where materials, equipment, and personnel each make their unique and integrated contribution to the instructional program.

5. The Board of Directors of the Department of Audiovisual Instruction, NEA, at their meeting in Washington, D.C., October 31, accepted the quantitative guidelines formulated by the October 14-16, 1965 Seminar of the NDEA, Faris-Sherman study.

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7. The Quantitative Guidelines were accepted as standards by the Executive Committee of the Association of Chief State School Audio-Visual Officers at their December, 1965, meeting in Chicago.

The standards have been brought to the attention of accrediting associations for their use in evaluating schools. Meanwhile, the study will continue with the case studies and other aspects of the report until its completion in September, 1966.

PERSONNEL GUIDELINES

(Elementary and Secondary Education)

In schools with 15 teachers or less--- ½-time audiovisual specialist. (specialists may serve more than one school).

In schools with 16 to 30 teachers--- 1 full-time audiovisual specialist.

Add one audiovisual specialist for each additional 40 teachers or major fraction thereof.

One, or the equivalent, semi-professional assistant (technician, graphic artist, clerk, photographer, etc.) for each 30 teachers.

In schools where audiovisual and library responsibility is combined (the instructional materials concept), the amount of staff required will be determined by adding the above audiovisual requirements to the personnel standards for libraries set by the American Library Association. It is recommended that the first specialist hired be an instructional materials specialist with training in both audiovisual instruction and librarianship.

Every multiple unit school district with at least one high school and four elementary schools shall employ a district or system audiovisual specialist.

MATERIALS GUIDELINES (Elementary and Secondary)

	BASIC	ADVANCED
16mm films	The films are to be owned by the school system, unit, district, cooperative, etc., and readily available to the schools involved.	
	500 titles plus one additional film per each teaching station over 500--with duplicates as needed	1000 titles plus one additional film per each teaching station over 1000--with duplicates as needed
	or	or
	An average of 6 film rental bookings per teaching station per school year	An average of 12 film rental bookings per teaching station per school year
Filmstrips	1 per student per ADA the preceding year	1½ per student per ADA the preceding year
Recordings--Tapes and Discs excludsive of language lab materials	100 plus 2 per teaching station	300 plus 3 per teaching station

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
2x2 Slides
3¼x4 Slides
Transparencies and Transparency Masters

Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips, and recordings to be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction, or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

EQUIPMENT BUDGET

The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. This figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (Elementary Education)

	BASIC	ADVANCED
16mm Sound Projector	1 per 10 teaching stations	5 per 5 teaching stations
8mm Projector	Should have one available for experimental purposes, but no specific guideline at this time. Schools will have to acquire as the field develops and materials become available.	
Filmstrip or Combination Filmstrip-Slide Projector	1 per 3 teaching stations	1 per teaching station
2x2 Slide Projector	1 automatic projector per school	1 automatic projector per 5 teaching stations
Sound Filmstrip Projector	Combine available filmstrip projector with existing record-player or tape-recorder	1 per building
$3\frac{1}{4}$x4 Projector Overhead	1 per school district	1 per school building
$3\frac{1}{4}$x4 Projector Auditorium	1 per auditorium	1 per auditorium
Filmstrip Viewer	1 per 3 teaching stations	1 per teaching station
	Also a quantity of viewers (1 per 3 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home).	
Overhead Projector (10x10) Classroom Type	1 per 4 teaching stations	1 per teaching station
Overhead Projector Auditorium Type	Appropriate number for large group instructions	
	An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capacities to project a satisfactory image in an auditorium type of situation.	

	BASIC	ADVANCED
Opaque	1 per building	1 per 6 teaching stations
TV Receivers	1 per class per TV channel at the grade level having the greatest number of sections--if programs are available	1 per teaching station if programs are available
Micro-projector	1 per school	1 per 2 grade levels
Record Players	1 per teaching station K-3; 1 per grade level 4-6. 1 set of earphones per each teaching station--where listening stations are utilized 6-10 earphones are needed	1 per teaching station plus earphones for each--where listening stations are utilized 6-10 earphones are needed
Tape Recorders	1 per 5 teaching stations	1 per 2 teaching stations with earphones as needed
Projection Carts	1 per portable piece of equipment purchased at the time the equipment is purchased	Permanent installation for projection purposes in each classroom
Light Control	Every classroom should have adequate light control. Adequate means the availability of facilities to control light to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	2 per school district would be desirable at the present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made.	
Closed-Circuit TV	All new construction should include provisions for installation at each teaching station--older buildings should be wired for closed circuit television as need develops.	
Radio-Receivers	1 per school plus one battery type for emergency purposes	1 or more per building as is dictated by instructional needs plus central distribution system (AM-FM)

Projection Screens	One permanently mounter screen per classroom. 70x70 or larger with provision for eleminating keystoning. Large screen for auditorium or large group instructional area.	Additional portable screen of suitable size for individual and small group use
Local Production Equipment Per Building	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment Spirit Duplicator Primary Typewriter Polaroid Camera 35mm Camera and assessories as needed Film Rewind Film Splicer (8-16mm) Tape Splicer	(Add to basic list:) 8mm camera Second Type of Transparency Maker Mechanical Lettering Copy Camera and Stand

EQUIPMENT GUIDELINES (SECONDARY EDUCATION)

	BASIC	ADVANCED
16mm Sound Projector	1 per 10 teaching stations	1 per 5 teaching stations
8mm Projector	1 per building	Number will necessarily have to be based on availability of film cartridges. There is a trend toward individual learning stations or independent study and additional equipment will be needed as program develops.

Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contribution of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.

	BASIC	ADVANCED
2x2 Slide Projector Automatic	1 per building	1 per 5 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 10 teaching stations	1 per 5 teaching stations
Sound Filmstrip Projector	Combine available filmstrip projector with existing record player or tape recorder.	1 per building
3¼x4 Projector (Overhead)	1 per school district	1 per building
3¼x4 Projector (Auditorium)	1 per auditorium	1 per auditorium
Filmstrip Viewer	1 per 3 teaching stations	1 per teaching station

Also a quantity of viewers (1 per 2 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home)

<table>
<tr><th></th><th>BASIC</th><th>ADVANCED</th></tr>
<tr><td>Overhead Projector (10x10)
Classroom type</td><td>1 per 4 teaching stations</td><td>1 per teaching station</td></tr>
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Auditorium type</td><td colspan="2">Appropriate number for large group instruction.
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<tr><td>Opaque</td><td>1 per building</td><td>1 per floor</td></tr>
<tr><td>TV Receivers</td><td>1 per department where programs are available</td><td>1 per 24 viewers in a classroom where programs are available</td></tr>
<tr><td>Micro-Projector</td><td>1 per school</td><td>1 per department where applicable</td></tr>
<tr><td>Record Players</td><td>1 per 10 teaching stations</td><td>1 per 5 teaching stations</td></tr>
<tr><td>Tape Recorders</td><td>1 per 10 teaching stations</td><td>1 per 5 teaching stations</td></tr>
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<tr><td>Closed-Circuit TV</td><td colspan="2">All new contruction should include provisions for installation at each teaching station, and older buildings should be wired for closed-circuit television as needs develop.</td></tr>
</table>

	BASIC	ADVANCED
Radio-Receivers (AM-FM)	3 per building	1 per 10 teaching stations
	1 per building should be battery operated. 1 set all-wave for language use.	
Projection Screens	One permanently mounted screen per classroom. No smaller than 70x70 with keystone elimination. Screen for auditorium and/or large group instructional use.	One permanently mounted screen per classroom plus portable screens as needed. Permanent screen no smaller than 70x70 with keystone elimination. Screen for auditorium and/or large group instructional area.
Local Productions Equipment Per Building	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera and Stand Light Box 35mm Still Camera Film Rewind Film Splicer (8mm and 16mm) Tape Splicer	Add to basic list: Slide Reproducer Second Type of Transparency Production Equipment Mechanical Lettering

PERSONNEL GUIDELINES (HIGHER EDUCATION)

One full-time audio-visual director with supporting staff as needed as program develops. Director might add personnel in the areas of administration, graphics, film production, audio production, ITV, teachings, etc. Start with full-time secretary and add secretarial help as needed.

Many colleges are creating materials centers and consequently the audio-visual program will become a part of this larger organizational pattern. Where this is happening it should be stressed that the recommendations concerning personnel remain the same with the possible addition of a director of the total materials program who could be an audio-visual communications specialist.

MATERIALS GUIDELINES (HIGHER EDUCATION)

	BASIC	ADVANCED
16mm Films	500 college level titles plus 2 per instructor over 500. In addition, teacher education institutions should have the basic film collection recommended for elementary and secondary schools (1,000). OR An average of 3 film rentals per instructor per course.	1,000 college level titles plus 3 per instructor over 500, plus elementary and secondary basic collection in teacher education institutions. OR An average of 5 film rentals per instructor per course.
Filmstrips	2000 titles with duplicates as needed	3000 titles with duplicates as needed
Recordings--Tape and Disc (but not electronic lab materials)	1000	2000

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
2x2 Slides
3¼x4 Slides
Transparencies and Transparency Masters
Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips, and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less that 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program, the 1% figure should be increased to 1.5%.

EQUIPMENT BUDGET

The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. This figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (HIGHER EDUCATION)

	BASIC	ADVANCED
16mm Sound Projector	1 per 12 teaching stations (multi-purpose institution)	1 per 8 teaching stations
	1 per 8 teaching stations (single-purpose institution)	1 per 5 teaching stations
	1 to 3 sound projectors per institution	1 per 10 teaching stations

Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contributions of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.

	BASIC	ADVANCED
2x2 Slide Projector (Automatic)	1 per 10 teaching stations	1 per 6 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 10 teaching stations	1 per 5 teaching stations
Sound Filmstrip Projector	1 per 15 teaching stations	1 per 10 teaching stations
3¼x4 Projector (Overhead)	2 per institution	1 per building
3¼x4 Projector (Auditorium)	1 per auditorium	1 per auditorium plus arc or similar power
Filmstrip Viewer	5 to 10 at each filmstrip depository	10 to 20 at each filmstrip depository
	It is assumed that viewers will be available for individual use at the depositories. As this activity increases additional viewers should be secured.	
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station
Overhead Projector (10x10) Auditorium type	Appropriate number for large group instructional areas.	
	An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.	
Opaque Projector	3 to 6 per institution	8 to 12 per institution
TV Receivers	1 per each 24 viewers where programs available (or projection TV as needed)	1 per teaching station but no more than 24 viewers per set
Record Players	1 per 25 teaching stations	1 per 15 teaching stations
Tape Recorders	1 per 5 teaching stations	1 per 2 teaching stations
Projection Carts	1 per 2 to 6 pieces of equipment	1 per 2 to 4 pieces of equipment

	BASIC	ADVANCED
Light Control	Every classroom should have adequate light control. Adequate in this situation means that the light can be controlled to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	1 per institution	1 per TV production unit
Closed-Circuit TV	1 studio per institution capable of distribution of programing to each teaching station Many instittuions may desire portable closed-circuit units for specialized use. Where this is the case, the portable units should be secured in addition to the basic recommendations noted above.	
Radio-Receivers (AM-FM)	3 available in central location	Equivalent of 1 per classroom building
Projection Screens	1 per teaching station (at least 70x70) with provision for keystone elimination plus 1 portable screen per building. Suitable screen for auditorium, large, or small group use.	
Electronic Learning Lab	1 lab per institution	As programs dictate
Local Production Equipment	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera 35mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera Light Box Film Rewind Film Splicer Tape Splicer	Add to basic list: Slide Reproducer Second Type of Transparency Producer Mechanical Lettering

APPENDIX B

QUANTITATIVE STANDARDS FOR AUDIOVISUAL PERSONNEL, EQUIPMENT AND MATERIALS

(In Elementary, Secondary, and Higher Education)

Developed as part of the Faris-Sherman Study conducted under the auspices of the United States Office of Education, National Defense Education Act, Title VII, Part B program.

Adopted By

The Department of Audiovisual Instruction, NEA, at the Board of Directors Meeting in Washington, D.C., on October 30, 1965

and

The Association of Chief State School Audio-Visual Officers at the Executive Board Meeting in Chicago on December 14, 1965

Reprinted by The National Audio-Visual Association, Inc., Fairfax, Virginia, with permission of the Department of Audiovisual Instruction, National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

NATIONAL AUDIO-VISUAL ASSOCIATION
3150 SPRING STREET--FAIRFAX, VIRGINIA 22030

FOREWORD

Administrators of audio-visual programs have long recognized that the lack of nationally established standards has been a major deterrent to an adequate supply of properly utilized materials and equipment. Numerous efforts have been made at local levels to establish standards but these have been relatively ineffective. Even while formulating their own individual school standards, audio-visual coordinators were pleading for city-wide standards, the cities for state-wide and for the past decade at least, states have requested national standards.

The standards in the pages which follow represent a stage in a study to "Formulate Quantitative Guidelines for the Audio-Visual Communications Field." This study by Dr. Gene Faris and Dr. Mendel Sherman is in progress under the auspices of an NDEA Title VII research contract. The final research report will include a rationale for the standards in addition to visualized case studies of several schools which approximate the standards. Four main categories are included in the standards; personnel, materials, equipment and budget.

The standards have progressed through seven stages in their preparation:

1. A tentative set of quantitative guidelines for selected materials and equipment was formulated by a national committee at the 1963 annual conference of the Department of Audiovisual Instruction.
2. Reactions to these quantitative guidelines and suggestions from audio-visual specialists in various institutions throughout the nation were gathered and consolidated by Dr. Gene Faris. The modified guidelines were reported in the March 1965 issue of Audiovisual Instruction.
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Department of Audio-Visual
  Instruction
National Education Association
1201 Sixteenth Street, N.W.
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PERSONNEL GUIDELINES
(ELEMENTARY AND SECONDARY EDUCATION)

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In schools with 16 to 30 teachers - 1 full time audiovisual specialist

Add one audiovisual specialist for each additional 40 teachers or major fraction thereof

One, or the equivalent, semi-professional assistant (technician, graphic artist, clerk, photographer, etc.) for each 30 teachers

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Every multiple unit school district with at least one high school and four elementary schools shall employ a district or system audiovisual specialist.

MATERIALS GUIDELINES (ELEMENTARY AND SECONDARY)

	Basic	Advanced
16mm films	The films are to be owned by the school system, unit, district, cooperative, etc., and readily available to the schools involved.	
	500 titles plus one additional film per each teaching station over 500 - with duplicates as needed OR An average of 6 film rental bookings per teaching station per school year	1000 titles plus one additional film per each teaching station over 1000 - with duplicates as needed OR An average of 12 film rental bookings per teaching station per school year
Filmstrips	1 per student per ADA the preceding year	1 1/2 per student per ADA the preceding year
Recordings - Tape and Discs exclusive of language lab materials	100 plus 2 per teaching station	300 plus 3 per teaching station

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
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3 1/4 x 4 Slides
Transparencies and Transparency Masters
Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

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The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. This figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (ELEMENTARY EDUCATION)

	Basic	Advanced
16mm Sound Projector	1 per 10 teaching stations	1 per 5 teaching stations

	BASIC	ADVANCED
8mm Projector	Should have one available for experimentl purposes, but no specific guideline at tis time. Schools will have to acquire as te field develops and materials become avaiable.	
2x2 Slide Projector	1 automatic projector per school	1 automatic projector per 5 teachng stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 3 teaching stations	1 per teaching staion
Sound Filmstrip Projector	Combine available filmstrip projector with existing record player or tape recorder	1 per building
3 1/4 x 4 Projector Overhead	1 per school district	1 per school builing
3 1/4 x 4 Projector Auditorium	1 per auditorium	1 per auditorium
Filmstrip Viewer	1 per 3 teaching stations	1 per teaching station
	Also a quantity of viewers (1 per 3 teaching stations) should be available from a central source within the buildig for special project use or for individul study (school or home).	
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station
Overhead Projector Auditorium type	Appropriate number for large group insuction An auditorium model overhead merely imlies that the machine utilized has sufficie light output and optical capabilities o project a satisfactory image in an audtorium type situation.	

	Basic	Advanced
Opaque	1 per building	1 per 6 teaching stations
TV Receivers	1 per class per TV channel at the grade level having the greatest number of sections-if programs are available	1 per teaching station if programs are available
Micro-Projector	1 per school	1 per 2 grade levels
Record Players	1 per teaching station K-3, 1 per grade level 4-6 1 set of earphones per each teaching station-where listening stations are utilized 6-10 earphones needed	1 per teaching station plus earphones for each-where listening stations are utilized 6-10 earphones needed
Tape Recorders	1 per 5 teaching stations	1 per 2 teaching stations with earphones as needed
Projection Carts	1 per portable piece of equipment purchased at the time the equipment is purchased	Permanent installation for projection purposes in each classroom
Light Control	Every classroom should have adequate light control. Adequate means the availability of facilities to control light to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	2 per school district would be desirable at present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made.	

	Basic	Advanced
Closed-Circuit TV	All new construction should include provisions for installation at each teaching station-older buildings should be wired for closed circuit television as need develops	
Radio-Receivers	1 per school plus one battery type for emergency purposes	1 or more per building as is dictated by instructional needs plus central distribution system (AM-FM)
Projection Screens	One permanently mounted screen per classroom, 70x70 or larger with provision for eliminating keystoning. Large screen for auditorium or large group instructional area	Additional portable screen of suitable size for individual and small group use
Local Production Equipment Per Building	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment Spirit Duplicator Primary Typewriter Polaroid Camera 35mm Camera and accessories as needed Film Rewind Film Splicer (8-16mm) Tape Splicer	Add to basic list: 8mm Camera Second type of Transparency Maker Mechanical Lettering Copy Camera and Stand

EQUIPMENT GUIDELINES (SECONDARY EDUCATION)

	Basic	Advanced
16mm Sound Projector	1 per 10 teaching stations	1 per 5 teaching stations

	Basic	Advanced
8mm Projector	1 per building	Number will necessarily have to be based on availability of film cartridges. There is a trend toward individual learning stations or independent study and additional equipment will be needed as program develops.
	Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contribution of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.	
2x2 Slide Projector Automatic	1 per building	1 per 5 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 10 teaching stations	1 per 5 teaching stations
Sound Filmstrip Projector	Combine available filmstrip projector with existing record player or tape recorder	1 per building
3 1/4 x 4 Projector (Overhead)	1 per school district	1 per building
3 1/4 x 4 Projector (Auditorium)	1 per auditorium	1 per auditorium

	Basic	Advanced
Filmstrip Viewer	1 per 3 teaching stations	1 per teaching station
	Also a quantity of viewers (1 per 2 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home).	
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station
Overhead Projector (10x10) Auditorium type	Appropriate number for large group instruction	
	An auditorium model merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.	
Opaque	1 per building	1 per floor
TV Receivers	1 per department where programs are available	1 per 24 viewers in a classroom where programs are available
Micro-Projectors	1 per school	1 per department where applicable
Record Players	1 per 10 teaching stations	1 per 5 teaching stations
Tape Recorders	1 per 10 teaching stations	1 per 5 teaching stations
Projection Carts	1 per portable piece of equipment purchased at the time the equipment is purchased	Permanent installation for projection purposes in each classroom

	Basic	Advanced
Light Control	Every classroom should have adequate light control. Adequate implies the availability of facilities to control light to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	2 per school district would be desirable at present time for pilot programs. The state of this field is so dynamic that no specific recommendations can be made.	
Closed-Circuit TV	All new construction should include provisions for installation at each teaching station, and older buildings should be wired for closed-circuit television as needs develop.	
Radio-Receivers (AM-FM)	3 per building	1 per 10 teaching stations
	1 per building should be battery operated. 1 set all-wave for language use.	
Projection Screens	One permanently mounted screen per classroom. No smaller than 70x70 with keystone elimination. Screen for auditorium and/or large group instructional area.	One permanently mounted screen per classroom plus portable screens as needed. Permanent screen no smaller than 70x70 with keystone elimination. Screen for auditorium and/or large group instructional area.
Local Production Equipment Per Building	Dry Mount Press and Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera Rapid Process Camera	Add to basic list: Slide Reproducer Second type of Transparency Production Equipment Mechanical Lettering

	Basic	Advanced
Local Production Equipment Per Building (Cont'd)	Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera and Stand Light Box 35mm Still Camera Film Rewind Film Splicer (8mm and 16mm) Tape Splicer	

PERSONNEL GUIDELINES (HIGHER EDUCATION)

One full-time audio-visual director with supporting staff as needed as program develops. Director might add personnel in the areas of administration, graphics, film production, audio production, ITV, teaching, etc. Start with full-time secretary and add secretarial help as needed. Many colleges are creating materials centers and consequently the audio-visual program will become a part of this larger organizational pattern. Where this is happening it should be stressed that the recommendations concerning personnel remain the same with the possible addition of a director of the total materials program who could be an audio-visual communications specialist.

MATERIALS GUIDELINES (HIGHER EDUCATION)

	Basic	Advanced
16mm films	500 college level titles plus 2 per instructor over 500. In addition, teacher education institutions should have the basic film collection recommended for elementary and secondary schools (1000). OR An average of 3 film rentals per instructor per course	1000 college level titles plus 3 per instructor over 500, plus elementary and secondary basic collection in teacher education institutions. OR An average of 5 film rentals per instructor per course

	Basic	Advanced
Filmstrips	2,000 titles with duplicates as needed.	3,000 titles with duplicates as needed.
Recordings-Tape and Disc but not electronic lab materials	1,000	2,000

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
2x2 Slides
3 1/4 x 4 Slides
Transparencies and Transparency Masters
Study Prints
Maps
Globes
Dioramas

MATERIALS BUDGET

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

EQUIPMENT BUDGET

The capital expenditures necessary to secure the equipment recommended herein should be calculated from the price of the equipment. This figure will necessarily vary from school to school due to the range in equipment prices and the excellence of the equipment programs developed.

EQUIPMENT GUIDELINES (HIGHER EDUCATION)

	Basic	Advanced
16mm Sound Projector	1 per 12 teaching stations (Multi-purpose institutions)	1 per 8 teaching stations
	1 per 8 teaching stations (Single purpose institution)	1 per 5 teaching stations
8mm Projector	1 to 3 sound projectors per institution	1 per 10 teaching stations
	Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contributions of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.	
2x2 Slide Projector (Automatic)	1 per 10 teaching stations	1 per 6 teaching stations
Filmstrip or Combination Filmstrip-Slide Projector	1 per 10 teaching stations	1 per 5 teaching stations
Sound Filmstrip Projector	1 per 15 teaching stations	1 per 10 teaching stations

	Basic	Advanced
3 1/4 x 4 Projector (Overhead)	2 per institution	1 per building
3 1/4 x 4 Projector (Auditorium)	1 per auditorium	1 per auditorium plus arc or similar power
Filmstrip Viewer	5 to 10 at each filmstrip depository	10 to 20 at each filmstrip depository
	It is assumed that viewers will be available for individual use at the depositories. As this activity increases additional viewers should be secured.	
Overhead Projector (10x10) Classroom type	1 per 4 teaching stations	1 per teaching station
Overhead Projector (10x10) Auditorium type	Appropriate number for large group instructional areas. An auditorium model merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.	
Opaque	3 to 6 per institution	8 to 12 per institution
TV Receivers	1 per each 24 viewers where programs available (or projection TV as needed)	1 per teaching station but no more than 24 viewers per set
Record Players	1 per 25 teaching stations	1 per 15 teaching stations
Tape Recorders	1 per 5 teaching stations	1 per 2 teaching stations
Projection Carts	1 per 3 to 6 pieces of equipment	1 per 2 to 4 pieces of equipment

	Basic	Advanced
Light Control	Every classroom should have adequate light control. Adequate in this situation means that light can be controlled to the extent that all types of projected media can be utilized effectively.	
Video-Tape Recorders	1 per institution	1 per TV production unit
Closed-Circuit TV	1 studio per institution capable of distribution of programing to each teaching station	
Radio-Receivers (AM-FM)	3 available in central location	Equivalent of 1 per classroom building
Projection Screens	1 per teaching station (at least 70x70) with provision for keystone elimination plus 1 portable screen per building. Suitable screen for auditorium--large or small group use.	
Electronic Learning Lab	1 lab per institution	As programs dictate
Local Production Equipment	Dry Mount Press and Tacking Iron Transparency Production Equipment 16mm Camera 8mm Camera 35mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera Light Box Film Rewind Film Splicer Tape Splicer	Add to basic list: Slide Reproducer Second Type of Transparency Producer Mechanical Lettering

APPENDIX C

APPENDIX C

AUDIO VISUAL
QUANTITATIVE STANDARDS

EQUIPMENT

MATERIAL

PERSONNEL

Issued by
DEPARTMENT OF PUBLIC INSTRUCTION
M.F. PETERSON, Superintendent
Bismarck, North Dakota
1966

FOREWARD

The State Department of Public Instruction has accepted the attached Audio-Visual Quantitative Standards as official guidelines for the Elementary and Secondary Schools of North Dakota. We are pleased to make a copy of these Standards available to each school.

The difficulties attached to establishing equipment, personnel, and materials guidelines for the audio-visual field are well recognized. Anna L. Hyer, executive secretary of DAVI, writing in Audio-Visual Instruction (December 1961, p. 560), mentions some of the dangers involved in such undertaking. She writes:

> Setting quantitative standards is somewhat dangerous. In the eyes of many administrators minimum standards tend to become maximum ones. Furthermore, basic standards need to be adopted to local conditions. It is quite possible that a minimum standard in one school may be fairly adequate for one district, is sub-standard for another.

The lack of Audio-Visual Standards among states prompted the Committee on Professional Audio-Visual Standards of the Department of Audio-Visual Instruction of the National Education Association to establish guidelines. This was accomplished through the Faris-Sherman Study which was conducted under the auspices of the United States Office of Education, National Defense Education Act, Title VII, Part B Program.

The attached Audio-Visual Quantitative Standards are a part of this study. These Standards were accepted by the Department of Audio-Visual Instruction, N.E.A. at the Board of Directors Meeting in Washington, D. C. on October 30, 1965. They were also accepted by the Association of Chief State School Audio-Visual Officers at an Executive Board Meeting in Chicago on December 14, 1965.

M.F. PETERSON
Superintendent of Public
Instruction

"Buy North Dakota Products"

PREFACE

The purpose of this publication is to provide guidelines which will aid in the establishment of audio-visual programs in North Dakota Schools.

It is recognized that many, if not most, elementary and secondary schools of North Dakota do not enjoy the services of a qualified audio-visual specialist. Since Federal programs are developing an increased awareness of the need for audio-visual programs, it is necessary for the schools with non-specialist personnel, to obtain some assistance to properly utilize this method in the improvement of instruction.

The guidelines should provide an outline for a good program.

The guidelines, as presented, were arrived at by first surveying the related literature in the audio-visual field. From this information, as well as from the reactions of a number of DAVI members with strong interests in this area, a suggested set of guidelines was drawn up. The suggested guidelines were then forwarded to all DAVI state affiliates with a request for reactions from their members or appointed representatives. The response was large from these organizations. The guidelines represent, as nearly as possible, the consensus of the groups involved in their formulation.

We, in the Department of Public Instruction, feel that no more complete and current information is available. We hope that the school districts of the state will include, in the plans for improving instruction, provisions for the incorporation of this program for strengthening audio-visual education.

PERSONNEL GUIDELINES (ELEMENTARY AND SECONDARY EDUCATION)

In schools with 15 teachers or less - ½ time audiovisual specialist

In schools with 16 to 30 teachers - 1 full time audiovisual specialist

Add one audiovisual specialist for each additional 40 teachers or major fraction thereof.

In schools where audiovisual and library responsibilities are combined (the instructional materials center concept) the number of audiovisual specialists and non-professional assistants shall be increased by 50%. Individuals with the required training in both audiovisual and library science (usually called an instructional materials specialist) can be employed in lieu of the audiovisual specialist provided the number of professional people is increased as stated above.

One clerical or technical assistant should be added for each 30 teachers.

Every multiple unit school district with at least one high school and four elementary schools shall employ a district or system audiovisual specialist.

PERSONNEL GUIDELINES (HIGHER EDUCATION)

One full-time audio-visual director with supporting staff as needed as program develops. Director might add personnel in the areas of administration, graphics, film production, audio production, ITV, teaching, etc. Start with full-time secretary and add secretarial help as needed.

Many colleges are creating materials centers and consequently the audio-visual program will become a part of this larger organizational pattern. Where this is happening it should be stressed that the recommendations concerning personnel remain the same with the possible addition of a director of the total materials program who could be an audio-visual communications specialist.

MATERIALS GUIDELINES (ELEMENTARY AND SECONDARY)

16mm Films	The films are to be owned by the school system, unit, district, cooperative, etc., and readily available to the schools involved.
BASIC	500 titles plus one additional film per each teaching station over 500 - with duplicates as needed.
	OR
	An average of 6 film bookings per teaching station per school year.
ADVANCED	1000 titles plus one additional film per each teaching station over 1000 - with duplicates as needed.
	OR
	An average of 12 film rental bookings per teaching station per school year.
Filmstrips	
BASIC	1 per student per ADA the preceding year.
ADVANCED	1½ per student per ADA the preceding year.
Recordings - Tape and Discs exclusive of language lab materials	
BASIC	100 plus 2 per teaching station
ADVANCED	300 plus 3 per teaching station

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructor's use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

8mm Films
2x2 Slides
3¼x4 Slides
Transparencies and Transparency Masters
Study Prints
Maps
Globes
Dioramas

To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

MATERIALS GUIDELINES (HIGHER EDUCATION)

16mm films

BASIC	500 college level titles plus 2 per instructor over 500. In addition, teacher education institutions should have the basic film collection recommended for elementary and secondary schools (1000). OR An average of 3 film rentals per instructor per course.
ADVANCED	1000 college level titles plus 3 per instructor over 500, plus elementary and secondary basic

collection in teacher education institutions.

OR

An average of 5 film rentals per instructor per course.

Filmstrips

BASIC	2000 titles with duplicates as needed.
ADVANCED	3000 titles with duplicates as needed.

Due to the state of the field and the nature of certain media it is extremely difficult, if not impossible, to develop quantitative guidelines for all types of audio-visual materials. The list below includes some of these materials. Even though quantitative guidelines are not recommended at this time for these materials, it must be recognized that they do make a unique contribution to the instructional program and must be made available for instructors' use. Each item listed must be supported with a fair share of the funds expended for media. The overall objective of the media program should be to provide a wide variety of audio-visual materials with no one item dominating the program.

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To provide for a well-rounded materials program it is recommended that the basic complement of films, filmstrips and recordings be considered capital equipment and be purchased with such funds. To provide for the on-going materials program, including maintenance and replacement but not expansion, no less than 1% of the average per pupil cost in the school unit should be spent per year per student. The 1% amount would include film rentals if no basic film collection is started and subscription television (i.e. MPATI), but would not include salaries, building construction or remodeling, CCTV installations, or electronic learning centers.

To provide for an advanced materials program the 1% figure should be increased to 1.5%.

EQUIPMENT GUIDELINES (ELEMENTARY EDUCATION)

16mm Sound Projector

BASIC	1 per 10 teaching stations
ADVANCED	1 per 5 teaching stations

8mm Projector

BASIC & ADVANCED	Should have one available for experimental purposes, but not specific guideline at this time. Schools will have to acquire as the field develops and materials become available.

2x2 Slide Projector

BASIC	1 automatic projector per school
ADVANCED	1 automatic projector per 5 teaching stations

Filmstrip or Combination Filmstrip-Slide Projector

BASIC	1 per 3 teaching stations
ADVANCED	1 per teaching station

Sound Filmstrip Projector

BASIC	Combine available filmstrip projector with existing record player or tape recorder
ADVANCED	1 per building

3¼x4 Projector Overhead

BASIC	1 per school district
ADVANCED	1 per school building

3¼x4 Projector Auditorium

BASIC	1 per auditorium
ADVANCED	1 per auditorium

Filmstrip Viewer

BASIC	1 per 3 teaching stations
ADVANCED	1 per teaching station
	Also a quantity of viewers (1 per 3 teaching stations) should be available from a central source within the building for special project use or for individual study (school or home).

Overhead Projector (10x10)
Classroom type

BASIC	1 per 4 teaching stations
ADVANCED	1 per teaching station

Overhead Projector
Auditorium type

BASIC & ADVANCED	Appropriate number for large group instruction.
	An auditorium model overhead merely implies that the machine utilized has sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.

Opaque

BASIC	1 per building
ADVANCED	1 per 6 teaching stations

TV Receivers

BASIC	1 per class per TV channel at the grade level having the greatest number of sections - if programs are available.
ADVANCED	1 per teaching station if programs are available.

Micro-Projector

BASIC	1 per school

ADVANCED	1 per 2 grade levels

Record Players

BASIC	1 per teaching station K-3 and 1 per grade level 4-6
ADVANCED	1 per teaching station plus earphones for each - where listening stations are utilized 6-10 earphones needed

Tape Recorders

BASIC	1 per 5 teaching stations
ADVANCED	1 per 2 teaching stations with earphones as needed.

Projector Carts

BASIC	1 per portable piece of equipment purchased at the time the equipment is purchased.
ADVANCED	Permanent installation for projection purposes in each classroom.

Light Control

BASIC & ADVANCED	Every classroom should have adequate light control. Adequate means the availability of facilities to control light to the extent that all types of projected media can be utilized effectively.

Closed-Circuit

BASIC & ADVANCED	All new construction should include provisions for installations at each teaching station, and older buildings should be wired for closed-circuit television as needs develop.

Radio-Receivers (AM-FM)

BASIC	3 per building
ADVANCED	1 per 10 teaching stations

BASIC & ADVANCED	1 per building should be battery operated 1 set all-wave for language use

Projection Screens

BASIC	One permanently mounted screen per classroom. No smaller than 70x70 with keystone elimination. Screen for auditorium and/or large group instructional area.
ADVANCED	One permanently mounted screen per classroom plus portable screens as needed. Permanent screen no smaller than 70x70 with keystone elimination. Screen for auditorium and/or large group instructional area.

Local Production Equipment
Per Building

BASIC	Dry Mount Press & Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera and Stand Light Box 35mm Still Camera Film Rewind Film Splicer (8mm and 16mm) Tape Splicer
ADVANCED	Add to basic list: Slide Reproducer Second Type of Transparency Production Equipment Mechanical Lettering

EQUIPMENT GUIDELINES (HIGHER EDUCATION)

16mm Sound Projector

BASIC	1 per 12 teaching stations (Multipurpose institution) or 1 per 8 teaching stations (Single purpose institution)
ADVANCED	1 per 8 teaching stations (Multipurpose institution) or 1 per 5 teaching stations (Single purpose institution)

8mm Projector

BASIC	1 to 3 sound projectors per institution
ADVANCED	1 per 10 teaching stations

Significant changes are occurring in the 8mm medium which do not at present justify quantitative guidelines. Because of the important contribution of these films to individual and small group learning, however, conservative quantities have been suggested. As equipment and materials become more stabilized and as sources expand, schools should increase the quantities beyond the amounts suggested in these guidelines.

2x2 Slide Projector (Automatic)

BASIC	1 per 10 teaching stations
ADVANCED	1 per 6 teaching stations

Filmstrip or Combination Filmstrip-Slide Projector

BASIC	1 per 10 teaching stations
ADVANCED	1 per 5 teaching stations

Sound Filmstrip Projector

BASIC	1 per 15 teaching stations
ADVANCED	1 per 10 teaching stations

3¼x4 Projector (Overhead)

BASIC	2 per institution
ADVANCED	1 per building

3¼x4 Projector (Auditorium)

BASIC	1 per auditorium
ADVANCED	1 per auditorium plus arc or similar power.

Filmstrip Viewer

BASIC	5 to 10 at each filmstrip depository
ADVANCED	10 to 20 at each filmstrip depository

It is assumed that viewers will be available for individual use at the depositories. As this activity increases additional viewers should be secured.

Overhead Projector (10x10)
Classroom type

BASIC	1 per 4 teaching stations
ADVANCED	1 per teaching station

Overhead Projector (10x10)
Auditorium type

BASIC & ADVANCED	Appropriate number for large group instructional areas.

An auditorium model overhead merely implies that the machine utilized have sufficient light output and optical capabilities to project a satisfactory image in an auditorium type situation.

Opaque	
BASIC	3 to 6 per institution
ADVANCED	8 to 12 per institution
TV Receivers	
BASIC	1 per each 24 viewers where programs available (or projection TV as needed)
ADVANCED	1 per teaching station but no more than 24 viewers per set
Record Players	
BASIC	1 per 25 teaching stations
ADVANCED	1 per 15 teaching stations
Tape Recorders	
BASIC	1 per 5 teaching stations
ADVANCED	1 per 2 teaching stations
Projection Carts	
BASIC	1 per 3 to 6 pieces of equipment
ADVANCED	1 per 2 to 4 pieces of equipment
Light Control	
BASIC & ADVANCED	Every classroom should have adequate light control. Adequate in this situation means that light can be controlled to the extent that all types of projected media can be utilized effectively.
Video-Tape Recorders	
BASIC	1 per institution
ADVANCED	1 per TV production unit

Closed-Circuit TV

BASIC & ADVANCED	1 studio per institution capable of distribution of programing to each teaching station. Many institutions may desire portable closed-circuit units for specialized use. Where this is the case, the portable units should be secured in addition to the basic recommendations noted above.

Radio-Receivers (AM-FM)

BASIC	3 available in central location
ADVANCED	Equivalent of 1 per classroom building

Projection Screens

BASIC & ADVANCED	1 per teaching station (at least 70x70) with provision for keystone elimination plus 1 portable screen per building. Suitable screen for auditorium - large or small group use.

Electronic Learning Lab

BASIC	1 lab per institution
ADVANCED	As programs dictate

Local Production Equipment

BASIC	Dry Mount Press & Tacking Iron Paper Cutter Transparency Production Equipment 16mm Camera 8mm Camera 35mm Camera Rapid Process Camera Equipped Darkroom Spirit Duplicator Primary Typewriter Copy Camera Light Box Film Rewind Film Splicer Tape Splicer

ADVANCED	Add to basic list: Slide Reproducer Second Type of Transparency Producer Mechanical Lettering

M.F. PETERSON, SUPERINTENDENT
DEPARTMENT OF PUBLIC INSTRUCTION
BISMARCK, NORTH DAKOTA 58501

AUDIO VISUAL
QUANTITATIVE STANDARDS

APPENDIX D

APPENDIX D

FARIS-SHERMAN STUDY
INDIANA UNIVERSITY
BLOOMINGTON, INDIANA

GENERAL INFORMATION

1. Name of School ________________________________

   Address ________________________________

2. Name of Person Submitting this Report ________________

3. Enrollment (October, 1966) ____________

4. Grades Served ____________ to ____________

5. Number of Teachers ________________

6. Number of Teaching Stations ____________

7. Cost per pupil 1966-67 - Total budgeted cost per pupil in average daily attendance for current operating expenses (excluding debt service and capital outlay.) __________

8. Is there an audiovisual specialist in the school?

   Yes, Full Time ____ Yes, Part Time ____ No ____

9. How many additional professional people does the audio-visual specialist have on his staff?

   Full Time (Number) ____ Part Time (Number) ____

10. How many semi-professional people (technicians, graphic artists, clerks, photographers, etc.) does the audio-visual specialist have on his staff?

    Full Time (Number) ____ Part Time (Number) ____

AUDIO-VISUAL BUDGET

Please indicate the approximate amount budgeted for the following using the current budget (1966-67).

(a) Audio-Visual Materials ____________________

(b) Film Rentals ____________________

(c) Films Purchased ____________________

(d) Audio-Visual Equipment ____________________

Please indicate any unique or innovative instructional practices in your school where audiovisual materials are being utilized.

Would you be willing for the investigators to visit your school system as a part of this study? Yes _____ No _____

AUDIO-VISUAL EQUIPMENT AND MATERIALS IN SCHOOL UNIT

Please indicate the number of each of the following that is housed in the school unit or readily accessible to the unit.

TYPES OF AV MATERIALS AND EQUIPMENT	NUMBER
16mm Projectors	
16mm Films.	
8mm Projectors.	
8mm Films	
Overhead Projectors	
Transparency Makers	
Overhead Transparencies	
Filmstrip or Slide Projectors	
Filmstrips.	
Individual Filmstrip or Slide Viewers	
Earphone Sets	
Television Receivers.	
Radios.	
Tape Recorders.	
Tapes	
Drymount Presses.	
Cameras - 16mm (motion)	
Cameras - 8mm (motion).	
Photographic Dark Room.	
Student Carrels or Individual Learning Units.	

TYPES OF AV MATERIALS AND EQUIPMENT (CONTINUED)	NUMBER
Records (Disc).	
Record Players.	
Opaque Projectors	
Projection Screens.	
Flannel Boards.	

APPENDIX E

APPENDIX E

Reaction to the 1965 Quantitative Standards for the Audio-Visual Communications Field

1. In general the attached quantitative standards for the Audio-Visual Communications field have been: (Circle appropriate number)

5	4	3	2	1	0
Extremely Helpful	Very Helpful	Of Moderate Value	Of Very Limited Help	Of Doubtful Value If Any	Worthless

2. Strong aspects of the standards

3. Weak aspects of the standards

4. Comments on various ways in which the standards have affected the instructional program in your school or school system. (Use other side of paper or additional sheet if you wish.)

5. Suggestions for revision of the standards in addition to your changes on the attached list of standards.

Name of person completing questionnaire

Position

APPENDIX F

NOT FOR RELEASE

STANDARDS FOR SCHOOL MEDIA PROGRAMS

Contents

Preface

I. The Media Program in the School

II. Personnel for the Media Program

III. The Selection, Organization, and Accessibility of Materials

IV. The Resources of the Media Center: Scope and Expenditures

V. Media Center Facilities

VI. System Support of the School Media Program

Selected Bibliography

Appendix

NOT FOR RELEASE

STANDARDS FOR SCHOOL MEDIA PROGRAMS

by The American Association of School Librarians and
The Department of Audiovisual Instruction of the
National Education Association

in cooperation with representatives of the

American Association of Colleges for Teacher Education
American Association of School Administrators
American Institute of Architects
American Personnel and Guidance Association
Association for Childhood Education International
Association for Educational Data Systems
Association for Supervision and Curriculum Development
Association of Classroom Teachers
Association of School Business Officials
The Catholic Library Association
Council of Chief State School Officers
Department of Elementary, Kindergarten-Nursery Education, NEA
Department of Elementary School Principals, NEA
Department of Foreign Languages, NEA
Division of Rural Education Service, NEA
International Reading Association
National Association of Educational Broadcasters
National Association of Independent Schools
National Association of Secondary School Principals
National Catholic Education Association
National Commission for Support of Public Schools
National Congress of Parents and Teachers
National Council for the Social Studies
National Council of Teachers of English
National Council of Teachers of Mathematics
National School Boards Association
National Science Teachers Association
National Society for Programmed Instruction

NOT FOR RELEASE

PREFACE

Purpose

The standards presented in this publication have been prepared by a Joint Committee of the American Association of School Librarians and the Department of Audiovisual Instruction of the National Education Association in co-operation with an Advisory Board consisting of representatives from thirty professional and civic associations. Although the American Association of School Librarians revised their national standards in 1960 and the Department of Audiovisual Instruction released standards in 1965, significant social changes, educational developments, and technological innovations made it imperative to present new statements of standards. Adding to the urgency for revision were the numerous requests from the field--from school administrators, audiovisual specialists, classroom teachers, curriculum specialists, school librarians and other educators. As work on the revision proceeded, it became clear that standards for media programs would be greatly strengthened if they were prepared jointly by the two professional associations most closely identified with the resources for teaching and learning in the schools, and issued as a single document. Plans for cooperative action were initiated and successfully completed.

Two objectives that have motivated this project are: (1) To bring standards in line with the needs and demands of today's educational goals, and (2) to coordinate standards for school library and audio-visual programs.

The most important aim, of course, is to present and describe media programs that will best aid the schools in implementing their instructional programs. The standards are designed for schools seeking to give young people quality education; it is hoped that this means all schools. Schools with innovative curricula and instructional techniques will need and want to go beyond the quantitative standards, but for schools which have not yet fully achieved their objectives, the standards can serve as a guide for charting goals to be reached in progressive steps over a planned period of time.

National standards for media centers have many functions beyond the immediate ones of providing guidelines for programs of good quality and establishing criteria for the media services, resources, and facilities essential in the educational process. They act as a stimulus to correct the serious deficiencies now existing in too many of our schools either by (1) assisting in the establishment of media centers where no service is in evidence at all, or (2) accelerating the improvement of media programs and services where optimum programs are defeated because of lack of staff, space, or by other sub-standard conditions. The existence of national standards also makes it possible for state and system supervisors to press for the recruitment of more and varied personnel, and to show the relationship between research in learning development and the need for the support which media centers give to excellent and innovative educational programs.

National standards are higher, quantitatively, than state and regional standards and with good reason. The more important qualitative standards, representing the essential services to teachers and students, depend upon these quantitative measures for their full implementation. Thus the standards lend support to the many schools which have achieved excellence in their educational programs and give assistance to those schools which are striving to attain this goal. Over the years, the national standards have tended to improve state standards, as can be witnessed in the recent endorsement by many states of the 1960 national library standards and the 1965 audiovisual standards to serve as the standards for their states. Although there is often a time lag between the appearance of national standards and their achievement on a wide scale, they are not visionary but firmly based on the very real educational needs of today.

Because of the tempo characterizing change in our time, these standards may be obsolescent on the very day of their appearance. It will therefore be necessary to consider the possibility of revising them at least biennially.

Terminology

Administrative and organizational patterns for materials and services vary among schools as does the terminology used to describe them. We have school libraries, instructional materials centers, learning resource centers, library media centers and others. In addition to that part of the school bearing one of these names, many schools also have a separate audiovisual department which, in turn, is designated in a variety of ways--as a communications center, audio-visual center, instructional media center, or other title. Confusion of terminology also exists with reference to the personnel, programs, and the centers or departments concerned with media at system, regional, and state levels. The very word media has become almost meaningless unless accompanied by its local interpretation.

In this document the term media refers to all modes of communication including print and audiovisual forms and their accompanying technology. The other basic terms used are media program, media specialist, and media center. Media center applies to the individual school. When reference is made to the next larger unit, system media center is the term used. References to school building or building level mean an individual school, including those schools which have more than one building.

Media program refers to all the instructional and other services furnished to students and teachers by the media specialists, as described in Chapter I.

Media specialist refers to an individual who meets the requirements for teaching and who has broad professional preparation in educational media. Within this field there may be several types of specialization, such as (a) level of instruction, (b) areas of curriculum, (c) type of media, and (d) type of service. In addition to the media specialist as here defined, other professional personnel who are not qualified as teachers may be employed in the media program, e.g. computer program, television, and media preparation specialists.

The media center is a learning center in the school where a full range of materials and accompanying services from media specialists are accessible to teachers and students. It represents a unified program involving both audiovisual and printed resources with a single administrative organization and with a staff of competent specialists. The services include those now available in school libraries, learning centers, resource centers, instructional materials centers, communications centers, and audiovisual departments.

The terms as defined above are used in this publication for purposes of convenience, consistency, and clarification within the context of the standards and not with the intent to mandate any particular title or terminology.

Scope

The standards present the objectives of the media program at the building level, and the staff, resources and facilities needed to implement the program effectively. Personnel, resources, expenditures, and facilities are considered in the framework of a unified program. They are, however, applicable in schools having separate school libraries and audiovisual centers; in these situations, the long accepted standard that the school library must have both print and non-print available for use by students and staff still holds.

The standards apply to all schools having 250 or more students. Superior schools with fewer than 250 students but having or planning a functional media program can use the standards as valid guidelines. Schools which include K-12 and the very large schools of over 2,000 students have some special problems which are not resolved in this publication. The basic philosophy of making materials in all media easily accessible and of providing the services of media specialists applies to all schools. Media programs in new school buildings are not treated separately, since new schools require media centers and programs comparable to those recommended for established schools. Planning for media centers in new schools muct be done in advance, with sufficient funds and time allowed to have the media center in full operation when the building opens. The appointment of at least one full-time media specialist and clerical help to work a year in advance of the opening of a new school is essential.

Unless indicated otherwise in the text, the quantitative standards are recommended for any combination of grades in schools with 250 or more students. Exceptions would include schools having one grade only and some situations with two primary grades only; these exceptions would not change standards for size of staff, but would affect standards for range (titles) of resources.

This document is directed to the media program in the individual school. Reference is made to media programs at other levels as they affect the standards of the media program at the building level.

Chapter I presents the objectives of media programs. The services and activities of the media center are outlined in that section and noted throughout the publication. Chapter II deals with staff and Chapters III-V with resources, expenditures, space, and equipment. Chapter VI briefly describes some aspects of media program at system, multi-district, regional, state, and national levels. Some references to a district or system center are included in other chapters whenever this information affects the interpretation of standards for school buildings.

The commentary accompanying the standards does not represent a complete description of the policies, services, activities, organization, administration and operation of school media programs. It is not the purpose of this statement of standards to cover content ordinarily found in handbooks and textbooks or to duplicate material incorporated in major documents in the media field. It should be pointed out, also, that many principles contained in the earlier statements of standards are still pertinent.

Procedures

After two meetings of the Joint Committee, the tentative recommendations for the quantitative standards for media centers in individual schools and for the unified program were presented at special sessions during the 1967 conventions of the Department of Audiovisual Instruction, the American Association of School Librarians, and the National Education Association. Reactions were invited and received. These standards were also discussed in many other places at conferences, NDEA institutes, and many other meetings. Several thousand individuals had an opportunity to express their viewpoints about this phase of the standards. A great number indicated orally or in writing their opinions and suggestions, reacting on an individual basis or through reports representing group discussions. These responses were reviewed and considered carefully, and most recommendations were incorporated in the next draft of the standards.

The complete, but still tentative, draft of the standards was then submitted to approximately two hundred specialists in the school library and audiovisual field (including board members of the organizations sponsoring the project, presidents of state associations, and others). Reactions from the field about aspects of the standards continued. Comments from these individuals were studied by the members of the Joint Committee as they continued their work on the standards in later meetings. The draft, approved by the Joint Committee, was then sent to the Advisory Board and after their recommendations had been incorporated, it was presented to the boards of the American Association of School Librarians and the Department of Audiovisual Instruction, and revisions were made.

The Joint Committee, the Advisory Board, and the professional associations and civic organizations which they represent express their deepest gratitude for the assistance received through grants from the J. Morris Jones - World Book Encyclopedia - ALA Goals, and the U. S. Office of Education National Defense Education Act, Title VII, Part B Program, and to the many individuals throughout the nation who participated in, and contributed to, the shaping of the standards.

NOT FOR RELEASE

I. THE MEDIA PROGRAM IN THE SCHOOL

The Media Program in an Era of Change

Recent writings in the field of educational research have been concerned with cognitive growth, learning readiness, motivation, and the structure of subject matter. These aspects of learning have been discussed from many angles - psychological, sociological, scientific - and one recurrent statement emerges: children learn in a variety of ways but fundamental to this diversity is an inherent sense of curiosity and inquiry. An environment rich in materials and experiences is basic to fruitful learning and necessary in order to satisfy that zest and inquisitiveness.

The media program described in this publication is an integral part of the learning laboratory needed by today's youth, for the reasons stated above and also because the world in which they live is one of incredible change. Change has always been a concomitant of the life cycle. This generation, however, has witnessed and experienced changes so numerous, rapid, and far-reaching that every aspect of life has been profoundly affected. The vast increase in knowledge has been accompanied by an immediacy in awareness of that knowledge; the growth and mobility of the population have brought into schools more children to be educated with wider ranges of ability; technology has changed the content and the instruments of communication; and the experimentation which continues gives promise of further changes in instructional design and teaching techniques. Unchanged is the regard with which a democratic society considers its children: all children are valuable, and each child unique in his needs and capabilities.

All of these characteristics of the past decade have added a new urgency to educational planning and excellence in teaching. Federal legislation for education has emphasized the need for new materials, in greater quantity, and programs within which to utilize them. Innovative programs such as teaching teams and independent study; new curricula like those in the sciences, mathematics, and the foreign languages; changes in school organization which indlude flexible scheduling, nongraded schools, and educational parks -- all are examples of efforts to meet the challenges which educational systems face. More and varied approaches are needed because the problems of the schools are enormous. Making available within a school a multimedia or intermedia approach in the use of materials is one such approach.

The program of the media center is designed to meet the demands of the educational program which emphasizes the creative teacher and the child who is striving toward self-direction and independent thinking. The availability, in many formats, of materials which inspire as well as instruct makes it imperative to select, from among many, the media best suited to answer a specific need of one specific child. Visual and audient literacies are additional skills needed by today's citizens and are, therefore, part of the educational goals. Bringing together the specialists and the resources in print and non-print recognizes that they are in a partnership with teachers in the educational endeavor. The art and science of educational services are combined to give the best and the most to the learning program in the most efficient way.

The philosophy of a unified program of audiovisual and printed services and resources in the individual school is one that has continuously grown and been strengthened in the last thirty years. Given adequate financial support, this fusion of resources and services provides optimum service for students and teachers. Many schools now have unified media programs. For those others that have separate audiovisual departments and school libraries, it is recommended that, wherever possible, these services be combined, administratively and organizationally, to form a unified program. New schools should start with a unified media center and program of services.

The Media Program - A Resource for Instructional Development

The student turns to and depends on the media program for many purposes - most of them related to curricular requirements but some initiated by vocational and avocational interests. The media center's program, collections, and environment provide for a broad spectrum of learning opportunities for large and small groups, for committees, or for individuals. The focus is on facilitating and improving the learning process in its new direction - with emphasis on the learner, on ideas and concepts rather than on facts, on inquiry rather than on rote memorization. The media specialist guides students in studying effectively, and in promoting interest and enthusiasm in exploration and search. Within the program, the student is taught how to select materials, how to evaluate their pertinence, and how to extract from them what is required for the purposes of the learner. The expertise of the media specialist assists the student with the selection and location of resources, in whatever format is appropriate. In one case it may be a government document on the Gross National Product, in another an 8 mm loop cartridge on Weather, and in still another it may be a tape and filmstrip in which an artist describes the techniques of his work. In each case, the student is instructed in those skills needed, whether it be reading, listening, viewing, or note-taking. The media program also provides the student with opportunities to create and produce materials. In some instances these activities have afforded students their first experience of success and accomplishment.

The media program supplies these resources not only for classroom-motivated research but also for personal inquiry and for the extra-curricular activities of which student publications, clubs and productions are a few examples.

The media specialist, who is also knowledgeable about the learning process, child and adolescent growth, and curriculum development, is able to work effectively with teachers. Teachers find within the media program the resources, rich in depth and quantity and varied in format, which they require to meet the demands of innovative instructional methods. They look to the media specialist to provide information about new materials; to make these materials easily and quickly accessible; to keep them informed about recent developments in their subject areas and in educational trends through a collection of print and non-print professional materials; to channel information to them regarding students' progress and problems; to organize and conduct in-service courses for the full spectrum of media and their uses; to instruct students in the use and resources of the media center as the needs of the curriculum indicate; and, increasingly, to assist in the analysis of instructional needs and the design of learning activities.

The most productive use of media and the most effective media program require an ongoing partnership between teachers and media specialists, supplemented by relationships with other specialized school staff members, notably curriculum personnel. Teachers, as members of this team, keep media specialists informed about curricular content and assignments; they are also involved in planning media instruction, evaluating resources, motivating the use of the media center, and in implementing the media program.

The realization that the kind of media program advocated in this publication requires constant communication and planning with teachers and ample time to work individually with students is the foundation on which recommendations for personnel are based.

The concern for quality education is shared by all - the community, the educator, and the government. Each has a special responsibility toward the attainment of this worthwhile objective. As an important representative of the community, the school board takes an active part in projecting and achieving goals for the school system. By his awareness of the educational needs of his community, the school board member lends forceful support to financial programs which may be required in order to establish excellent schools with media programs, staff, equipment, and resources as outlined in this document. The school administrator, as a leader in the educational enterprise, is a strong influence in the encouragement of innovation in curriculum design and teaching. In setting priorities for achieving educational objectives, the administrator has the opportunity to press for the kind of fundamental support which a strong media program supplies to exemplary teaching and successful learning.

Quality education is expensive, but far more costly is the waste of human resources in poorly educated students and youth whose talents are lost to this nation. Quality education requires trained and varied media personnel in sufficient number; it calls for resources in great quantity and many forms; it demands physical facilities of adequate size and functional design. An increasing number of citizens have come to realize that educational programs which satisfy the requirements set forth in the reports of presidential commissions include learning situations which offer opportunity to children for exploration, independent study, inquiry - and at their own rate of growth. They accept the fact, therefore, that a school, in order to qualify as an educational agency, must include a media center. With that realization comes, it is hoped, the approval for the financial support required for the achievement of these objectives.

II. PERSONNEL FOR THE MEDIA PROGRAM

Staff in sufficient number and variety of competencies is an integral part of an effectively functioning media center. Personnel trained for the diverse aspects of the media program will insure the necessary organization and use of the wide spectrum of educational media now required for creative teaching and self-directed learning. The professional staff, technicians, and aides who comprise the personnel of the media program have unique and vital contributions to make to the total effectiveness of the program.

The first section of this chapter contains descriptions of the functions and responsibilities of the media specialists, and recommendations for the size of the professional staff in the school; and their professional education and preparation; the second section includes similar information about supportive staff members in the school's media program.

Professional Staff

Functions

The professional staff is responsible for the activities described below. Underlying all of these functions are the basic responsibilities of the media specialists for making instructional decisions and for supplying some leadership in the educational process. The media specialist has status equal to other faculty members with comparable qualifications and responsibilities.

The professional staff implements the media program by:

Serving as resource consultants and materials specialists to teachers and students

Selecting materials for the media center and its program, after cooperative planning and discussion with teachers and other staff members
Making all materials easily accessible to students and teachers

Working with teachers, students, and technicians to produce materials which supplement those available through other channels

Working with teachers to set up instructional programs which include teaching the effective use of media to members of the faculty

Assuming responsibility for giving instruction in the use of the media center and its resources as it is best correlated with the curriculum. This instruction, to be given by teachers and media specialists, may take place in the center or in the classroom, and the size of the group to be instructed is determined by the specific need.

Assisting children and young people to develop competency in listening, viewing, and reading skills

Helping students to develop good study habits, patterns of independent learning, and critical evaluation

Guiding students to an appreciation of those resources, in print and film and other arts, which can enrich their lieves esthetically

Profiding students with the opportunities to develop and practice principles of the democratic way of life

Serving as another channel of information to the teacher regarding students' progress, problems, or other pertinent data

Acting as resource persons in the classroom as requested by the teacher

Serving on teaching teams, full-time where the size of the media staff permits. The activities of the media specialist on this team include working with teachers, serving as resource consultant, organizing and directing the resource center (area resource center, subject center, or decentralized self-instruction laboratory), designing media and working directly with the students in the selection and evaluation of materials, research,and individualized learning

Making available to the faculty, through the facilities of the professional collection, knowledge regarding recent developments in subject areas and the general field of education

Supplying information to teachers on available in-service workshops and courses, and educational meetings

In elementary schools, the variations of pupil maturation and of learning processes may make allocation of media staff responsibilities on grade levels or age group lines most advantageous. Junior and senior high schools will probably find it more valuable to distribute staff responsibilities according to the subject areas of the curriculum. Media specialists who concentrate most of their work in one area, whether by grade, age, or subject, will still have competencies beyond these boundaries. Working with the media program's users means dealing with a variety of students, a variety of needs, and a variety of situations.

During a transitional stage, where the library and audiovisual departments are merging to form a unified center, it may be necessary to organize staff work according to type of medium, i.e., print and audiovisual materials. Where this is necessary, the utmost care should be taken to see that students and teachers receive quick and effective service, rather than compelling them to move constantly from the service area of one medium to that of another.

If there is more than one media center or if there are resource centers or branches of the media center, a media specialist must be in charge in these areas. Enough authority, responsibility, and personnel must be delegated to these staff members so they can plan, organize, administer, and give good service. Each center or branch thus has a media specialist in charge, responsible to and under the administrative authority of the head of the main media program.

Where a school has specialized media programs such as television, dial access, language laboratories, additional specialists will be required. For example, in a school which has a closed circuit television studio, there will be need for both a professional television producer and a television technician. The duties of the professional staff member include advising the teaching staff on television production, writing, advising on the preparations of scripts, designing visuals, and other educational and creative activities connected with this program.

Head of the Media Center

When there are two or more professional staff members, one is designated as the head. This appointed head has demonstrated abilities of leadership, public relations, and administrative efficiency. In addition, he should have competencies in both school library and audiovisual areas as well as knowledge in fields of learning theory, communications, curriculum development, supervision and research.

In those schools having separate audiovisual and library programs but now implementing a unified program, the head of the media program may be either the former head of the audiovisual department or the former head of the school library. If one of these has competencies in both school library and audiovisual areas plus the qualities of administrative leadership, that individual shall be named head. If neither has the combined background in school library and audiovisual areas, the appointment of head of the program shall go to that person who has superior qualifications of leadership, public relations, and administrative abilities.

A unified media program is recommended in these standards. It is recognized, however, that there are some situations with established programs in both library and audiovisual services where some compromise will be necessary during a transitional period and until such time as integration of the media program can be effected under the leadership of a qualified professional. In this interim, it is of utmost importance that the two programs be closely coordinated at the next higher level of administrative authority.

In establishing new media programs, the first professional will have the broad qualifications described above. The second media professional at the building level should have preparation in fields that complement those of the first. If the major preparation of the first professional is in the library field, the second should have a specialty in the audiovisual field, and vice versa. As the media staff grows, attention should be paid to other areas such as the knowledge of instructional systems and their organization and operation, e.g., closed circuit television, computer-assisted instruction, dial access information storage and retrieval. Increase in the size of the media staff will strengthen specialties in subject areas of the curriculum also.

The Head of the school media program:
Plans the activities of the center staff

Schedules and directs the various aspects of the media program's services

Reports to the principal (or equivalent chief school officer) and supplies information, as the principal recommends, to the system or district media director

Plans the expenditure of funds allotted to the school media program and keeps records of these disbursements

Assumes responsibility for the program of services:
- By individual conferences with administration and faculty
- As a member of curriculum committees
- As a member of textbook committees
- As a member of committees planning renovations of old buildings or the design of new buildings
- As chairman of the media center faculty committee
- As chairman of the school committee for planning the program of teaching students how to use the media center and its resources effectively and how to develop appropriate study methods

Has final responsibility, after consultation with curriculum and media center committees, for planning and implementing the media center's program of services to students and teachers, for the formulation of the media selection policy, and for the selection and provision of materials and equipment

Assists administrative authorities in the selection of personnel for the media center program

Provides in-service education to teachers and media center staff in the use of media and in the selection and utilization of materials

Creates, through knowledge of and skill in personnel administration, a professional atmosphere in which media staff members work harmoniously and at optimum level, and in which students and teachers can take full advantage of the resources and services of the media center

Maintains lines of communication with the system or district media director, through whose office the media program in the school may be strengthened and expedited

Has the status and position equivalent at least to that of chairman or head of a subject department in the school, and serves on the faculty council

As the size of the staff of professional members increases, the work of the head of the media center is largely concerned with administrative and planning activities. In small staffs, one member is officially designated as head of the program, even though he cannot devote a large part of his time to the administrative aspect of his responsibilities.

Size of the Professional Staff

The realization not only of the objectives of the media program but of the aims of the educational process itself is contingent on continuous and cooperative planning between specialists and other members of the faculty. It presupposes, also, the time for media specialists to work individually with students in teaching them the effective selection, evaluation, and synthesis of materials in all formats, and in assisting them with a variety of advisory, instructional and informational services. It is therefore recommended that the media center have one full-time media specialist for every 250 students, or major fraction thereof.

Professional Education and Preparation

The changing profile of the media program has affected the content and requirements of professional education for media specialists. In considering professional education, the following factors are pertinent:

1. In addition to the general foundation of a liberal arts education, all media specialists should have a knowledge of certain fundamentals of professional education:

   General background to include: curriculum development, student growth and learning development, communications theory, instructional methods, psychology - related to specific levels of school organization.

   Specific media areas to include: analysis, evaluation, selection and design of printed and audiovisual materials; procedures for the utilization of materials by students teachers, and other school personnel; the objectives, functions, and program of the media center; the administration and organization of materials and services; information science.

2. At present the unified media program is at varying stages of evolution across the country. In addition, there are situations where separate library and audiovisual programs exist, and will continue,

because of the nature of organizational or administrative factors in the local circumstances. In transitional situations and those where the dichotomy of the media program continues, it may be necessary to adjust professional education requirements in relation to already appointed staff.

3. In view of the explosions in knowledge, communications, curricular developments, and technology, the need for specialization has become urgent. This specialization may be in relation to the type of school, with expertise acquired in the materials, curriculum, instructional methods, and unique characteristics of students in that level or age group. Another form of specialization, especially at the secondary school level, may be in knowledge and graduate preparation in some subject area. In these cases (most likely to be feasible when the size of the media center staff is three or more) the requirement receiving priority is education in the special subject field. Media staffs can frequently be strengthened by having specialists in areas such as television, programed instruction, electronics and computerized processes and similar programs.

Recommendations for specialization indicated above are not necessarily retroactive for staff now working in schools where media center is in a transitional stage. The head and staff members may have a specialization in either print or audiovisual materials and services. It is strongly recommended, however, that in-service programs be provided and that all media specialists be encouraged to take advantage of the many avenues of continuing education (workshops, institutes, courses, and others) to upgrade and expand their professional knowledge and competencies.

4. Qualifications of and requirements for the staff of the system, multi-district, regional, or state media center will reflect the varying patterns of specialization already described. Where these centers exist, the kinds of special competencies represented on their staff may affect the range of specialization in the individual school as, for example, in the area of television.

5. In view of these many ongoing changes, the whole matter of professional education needs careful review. Not only do specifics of content need to be delineated but other problems require study: the place, scope, and nature of undergraduate professional education; the types and programs of specialization; the relationships or sequences of undergraduate, fifth year, sixth year, and doctoral programs; and the criteria for accrediting or approving programs of professional education for media specialists in colleges and universities. Most urgent is the joining of the separate programs in library science and audiovisual instruction into one unified or coordinated program leading

to a joint degree. Where only one program is presented, it is essential that the scope of the program be broadened to cover resources and services relating to both print and audiovisual materials.

6. Some professional media positions require specialized preparation and competencies but not necessarily teacher certification. Examples include television direction and production, motion picture direction and production, computer programed instruction, direction of the programs of information retrieval, dial access, and language laboratories. Services represented by these areas may be accessible from the system, but may also originate in the school building, in which case additional professional personnel must be appointed. As already noted, production of television programs within the school requires a full-time professional television specialist assisted by a full-time television technician and other assistants. Very large schools will need to have more.

Certification

Certification, like professional education, needs study and evaluation. In many states, reviews of certification requirements affecting media specialists are now in process. These reviews are concerned with: requirements for various levels and positions in media centers; the kind and amount of professional education needed by media specialists; provisions and requirements for specialization within the field; and criteria for approving agencies of higher education which offer programs for the preparation of media specialists. Many of the problems requiring solution in the area of professional education have relevance for the study and evaluation of certification procedures.

Study and redefinitions of certification requirements need to be undertaken in light of currently accepted objectives of media centers, of services performed by media specialists, and also of recommended standards for size of staff and types of positions in centers having more than one media specialist. The principle has long been recognized that in centers having three or more professional staff members, some classification and gradation of professional education requirements is in order.

Certification requirements must neither hinder the development of excellent media programs in schools nor regiment the creativity and experimentation of the professional schools or departments.

As in the matter of professional education, the problems must be resolved concerning the dichotomy of certification - one for school librarians and one for audiovisual specialists. Some kind of certification, allowing for all the variant patterns that have been recognized, seems essential. This could not only speed the development of unified media centers but would most definitely have an impact on the serious manpower problem and promote recruitment.

Supportive Staff: Technicians and Aides

The importance of supportive staff is in the specific skills and abilities which they bring to the media program and in the fact that their inclusion on the staff enables the media specialists to discharge the professional functions which have been described above. Supportive staff includes technicians and media aides, whose work is always under the direction of a professional staff member.

Functions of Technicians

Technicians are staff members with competencies which require specialized training and preparation in their field. The size of the school and the organization of the media program and its staff at the system level may affect the number and kind of technicians needed at the building level. Good service to students and teachers is the determining criterion. This service includes production of materials, repair of equipment, and assistance with various kinds of presentations.

The following fields of specialization are among those indicated for technicians:

1. Graphics technician: Producing transparencies; making posters, charts, graphs, dioramas, and similar materials; arranging displays, exhibits, and bulletin boards; lettering; making slides; preparing formal designs and illustrations for promotion and publication releases of the center; preparing materials for instructional use of television; etc.

2. Photographic technician: Taking and developing pictures for the instructional program, publicity, promotion, records, and other purposes; doing camera work involved in making films and producing television programs; advising and instructing students and any school group interested in photography; maintenance and repair of camera equipment and film material; photographing material

for slides, filmstrips, and resource files; maintenance of dark room; etc.

3. Electronics technician: Installing and keeping in working order equipment for television, dial access, recording and radio programs; engineering these facilities, as required; handling the mechanics of computerized processes; installing and maintenance of programed instruction equipment; etc.

4. Television technician: Handling the technical aspects of producing television programs developed by the school.

Preparation of Technicians

In each of the categories of the technician classification, special skills and competencies are required. These have been indicated or implied in the descriptions of the kinds of work the technicians do. Formal educational requirements cannot be specified for these positions, but the completion of high school education would seem minimal.

Functions of Media Aides

Media aides provide services that are varied and which require differing competencies. It is necessary for them to do clerical and secretarial work such as typing, keeping records, sending notices, and other tasks related to the circulation of materials. They also perform functions associated with the appearance and up-keep of the center such as reading shelves, putting away materials, and other similar activities. As the number of aides increases, additional services are made available: bibliographic searching, aspects of technical processing, assistance to teachers and students in locating materials, working at circulation desks, and a variety of other services.

It is assumed that the media aide is employed and paid by the school board. The volunteer service rendered by parents has important public relations value but is not a substitute for trained and salaried workers. Provision should be made for sufficient number of paid staff members to handle all secretarial, clerical, and maintenance work of the center not handled by the technicians.

Student assistants, both library and audiovisual, are not the equivalent of media aides as described above. If schools wish to provide opportunities for students to give service to the school media program, for service credit and not for academic credit, and if the students have time for these activities, this is a guidance aspect of the media program and does not give the supportive help that is required.

Qualifications of Media Aides

Qualifications for media aides have been implied in the description of the different services and activities for which they are responsible. Those doing clerical and secretarial work would meet the standards of performance and the personal qualifications customarily required for these positions. The media aides who assist students and teachers and who do certain types of bibliographic, technical, or other work requiring special qualifications and aptitudes should have at least a junior college education. Requirements for these positions will depend upon the local policies and regulations operating for teaching aides.

Size of Supportive Staff

In order to meet the needs of an effective media program and its diversified activities, it is recommended that at least one technician and one media aide for each professional media specialist in schools of 2,000 or fewer students, and as many additional aides and technicians as are needed to support special media programs of the school, such as television broadcasting, dial access, and language laboratories, be appointed in these schools.

In schools of more than 2,000 students adjustments may have to be made in the standards recommended in this publication for size of supportive staff.

III. THE SELECTION, ORGANIZATION AND ACCESSIBILITY OF MATERIALS

Qualitative standards underlying the selection and accessibility of materials are an integral and basic aspect of the media program. Adherence to these standards assures: (1) the provision of materials that meet recognized criteria for selection, (2) the functional and efficient organization of those materials, and (3) the accessibility of materials for optimum use by teachers, students, and the staff of the media center.

The availability of federal and state funds, the fixed deadlines within which these monies must be expended, the avalanche of materials in all formats and varying degrees of quality which are appearing on the market, and the increased pressures of commercialism in the sale of new, and old, media have made selection ever more difficult. The lack of a comprehensive network of bibliographic control and media evaluation (see Chapter VI) further intensifies the problem and underlines the necessity for the specialized competencies of the professional staff of media specialists on the building and system level.

This chapter includes three sections: general guidelines for the selection of materials, the organization of materials, and the accessibility of materials in the media center, elsewhere in the school, and in the home.

General Guidelines for the Selection of Materials

It is not the purpose of this publication to describe the specific criteria for evaluating the various forms and content of media. Each medium has unique hallmarks of quality which have been pointed out in books, articles, films, and filmstrips. Presented here are recommendations which are generally applicable to the media center in the school.

Criteria

The following recommendations refer to the evaluation of the materials, in all formats, which are acquired for the media program.

1. Only those materials are selected that have been approved by a process of competent evaluation which may be made by qualified materials specialists working with teachers at the local, state, regional or national level, and may be reported in reviews, recommended lists, standard bibliographic tools, or special releases. The school

and school system have a written statement of selection policy, formulated and endorsed by the school administration and faculty, and adopted by the school board. This statement indicates the general objectives and procedures of selection, and affirms those American freedoms as described in such documents as the Library Bill of Rights and the National Council of Teachers of English publication, The Students' Right to Read (see Appendix I)

2. Pending the attainment of standards in size of professional staff and the establishment of networks of centers for examination of materials, media specialists in individual schools will necessarily lean heavily on the judgments of qualified materials specialists outside the school building. If the system, regional, or state media specialists do not have ready access to materials for review or evaluation, this dependence will be true in the larger organizational units also.

3. Out of the necessarily large number of recommended materials in all the sources mentioned in point 1 above, it still remains the responsibility of media specialists to select and evaluate materials for their particular schools. This process calls for consultation with teachers and careful reading, viewing, and listening to insure optimum usefulness of materials selected. Suitability, accuracy, values, up-to-dateness and style are all established criteria and it is hoped that these may be judged before the materials have been acquired. Since no authority is infallible, media specialists in schools re-evaluate after materials are acquired so that these can be most effectively integrated with the curriculum.

4. In view of the heavy schedules of teachers and the vast quantities of materials on the market, teachers and curriculum personnel welcome, and must have, the services of qualified media specialists in selecting resources for teaching and learning in the school. The cooperation of teachers and curriculum personnel, however, as they participate in the selection of materials for the media center is always necessary and their suggestions receive priority consideration. This partnership between media specialists and other members of the faculty indicates the desirability of including study of the media within the professional education of teachers and administrators. As schools meet standards for the size of the media center staff, specialized competencies in specific curriculum areas and subject fields may be provided by the individual media specialist.

5. Evaluation is a continuous, ongoing process and not confined to the assessment of current acquisitions. Periodic review and re-evaluation are needed to insure a collection which meets the

requirements of the curriculum and keeps content up-to-date in such crucial areas, for example, as social studies, the sciences, and vocational areas.

6. The policy of having sufficient duplicate copies of materials to meet the needs of students and teachers (discussed under the heading of Accessibility in the pages that follow) is not identical with the provision of copying services. The latter necessitates some critical decision on the part of school administrators and media specialists in formulating policy about reproducing and making facsimile copies of copyrighted materials, both print and nonprint.[1]

Scope

These guidelines emphasize the need for acquiring materials in all the media and for the widest range of abilities represented among students.

1. The collection goes beyond the specifications of the curriculum and provides resources to inspire and to meet the independent interests and research of students. Therefore, the media collection is rich in breadth and depth in the subjects covered, the types of material included, and the forms of expression represented. This means provision of materials and resources designed to expedite learning by the use of all the senses, to develop esthetic appreciation, and to adapt to the diverse learning skills of individuals representing all levels of ability.

2. Materials in all formats are planned and created within the media center by teachers, students, media specialists and graphics technicians. Locally produced resources not only supplement materials available on the market but have the inherent advantages of providing a learning opportunity for the students who participate, and of being specifically pertinent to the particular curriculum of a particular school.

3. The media specialist must be alert to current trends in education and communication and their implications for media selection and use of materials. Such developments as the widespread use of paperbacks, the multimedia approach to materials, the emergence of information systems, instructional design and

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[1] See Copyright Law of the United States of America (Washington, D.C. Copyright Office, The Library of Congress, 1967) and other titles.

systems analysis, and computerized programs of learning and instruction have had marked influence on the scope and use of materials in the media center. Curricular changes which take into account the findings of educational research into learning development, the increased sophistication of youth, and the crises of the central city have great significance for the selection of materials.

4. In order to provide varied learning opportunities in the broadest sense, the center maintains a file of community resources, such as museums and places of historical importance, as well as a file of members of the community whose contributions in academic, artistic, and technical fields may supplement the media center's resources.

Organization of Materials

The selection of materials is of utmost importance and sufficient time must be provided for this professional activity. It is, however, only the introductory step to insuring needed support for curriculum development and individualization of learning. In order to effect those aims expeditiously it is: (1) imperative that materials be organized and arranged so that users of the center may obtain materials of all kinds quickly and easily, and (2) advisable to have materials processed through some arrangement outside the school building. This insures maximum time for the professional staff of the school media center to work directly with students and teachers, and will make materials immediately available upon their delivery to the school media center.

Arrangements for centralized processing are practical and recommended for any system or cluster of cooperating schools. For many schools, centralized processing at the system level provides the most efficient and economical service. Regional centers, involving several school systems in some form of cooperative arrangement, are now being developed or have already been established throughout the country and provide this service. Centralized processing on a state-wide basis is being done in at least one state and is being studied in others.

Commercial cataloging, now available from several companies, is especially useful for schools not having access to a system or regional processing center. Services from these companies range from supplying only catalog cards to the complete processing and cataloging of materials. An additional possibility is the cataloging of materials at the source in accordance with standards established by professional organizations, and by qualified personnel.

Changes and experimentation abound in the processing of materials, with results that will surely alter plans in the future. Computers, widely used for the purchase, accounting, invoicing, and acquisition of materials, give promise for radically changing cataloging of materials in the centers. The printed book catalog, still at an experimental stage, may promise advantages over the traditional card catalog: each teacher may have one, and multiple copies can be available in the center.

Accessibility of Materials

In the Media Center

Optimum use of materials is implemented in many ways:

1. The design, facilities, and arrangement of the media center are planned for the convenience and comfort of the users. Details for space and equipment that make this possible are presented in Chapter V.

2. Resources of the center and services of professional staff members are available whenever needed by students and teachers. The formal and informal instructional program of the media center - whether for individuals, classes, small groups, teaching teams, or other combinations of students and teachers - requires a great deal of time and a staff that is qualified and large enough to achieve its objectives. If the number of staff personnel is substandard, the resources of the center, no matter how extensive, are inaccessible and, therefore, useless.

3. Full accessibility includes not only supplying materials which meet standards for variety, breadth, and scope but also duplicating titles as necessary to meet curricular requirements and requests of students for materials that are popular and not necessarily related to class work. The use of paperbacks is valuable in meeting heavy demands of students and in encouraging the pleasure in reading. Duplication is needed also in filmstrips, 8mm films, recordings, and other materials.

4. Media equipment in sufficient number must be available to assure maximum accessibility and use of materials. The widespread approval of microfilm, films, filmstrips and recordings is paradoxically negated when the equipment needed for these materials is so limited that only a few students can use them. Lack of such tools undermines individualization of learning and militates against the effectiveness of much that is experimental in teaching.

5. Traditionally the center is open at all times of the

school day plus some time before and after school. These hours of service are now being extended in order to obtain greater returns from the school's investment in materials and equipment. This extended program is, however, dependent upon certain conditions. The location of the center in the school should make it possible to keep the center open within reasonable limits of maintenance costs and with adequate security measures. The geographic location of the school should make it possible for students to reach it safely and easily. Plans for new schools should show a location for the media center on a ground floor with an outside entrance and with provisions for remaining open when the rest of the school plant is closed. Centers in elementary schools will generally not need to remain open evenings but it is essential that they have extended hours of service on Saturdays and during vacation periods. Some cooperative arrangements may be made among a group of secondary schools to rotate evening hours of service so that one media center at a time is open to students. As with hours during the day, the media center should not be used for meetings which interfere with use by students.

Whatever arrangement is followed, extended hours of service require additional professional and supportive staff, preferably working on a staggered schedule rather than as a separate staff. The total work time for a staff member should not exceed the average work load and schedule of other faculty members.

6. Circulation and loan regulations make it possible for students to borrow materials easily for use in school and at home. Only in very exceptional cases are materials barred from loan outside the media center. Duplicate copies of reference works are available for borrowing, as are all types of print and nonprint materials. With the change in philosophy and objectives of media centers has come the elimination of differentiating among forms of materials. Students borrow whatever materials they need, and technological advances will make it possible for them to borrow the equipment also as it becomes more portable and less expensive. Loan regulations are generous and elastic, with lengths of loan easily renewable unless there is reasonable justification for limitations. The quantity of material that can be withdrawn at any one time is not limited.

7. Recent inventions for video dial access and for cartridges that project material through television sets provide new channels for making resources accessible in the media center.

8. Effective displays and promotion which include not only the customary techniques of publicity but also dramatic arrangements that bring together many types and forms of materials unlock

the resources of the center.

9. Accessibility involves also the utilization of the resources and services of the system or regional materials centers (see Chapter VI). These may include inter-center loan materials, televised and taped programs originating in the district center, resources in banks of materials, films, and other materials channeled from there into the classrooms and media center areas. These expanded services widen considerably the margin of accessibility of resources to students and teachers and contribute further to the variety, richness, and efficiency of the media program in the school.

Elsewhere in the School

1. The resources of the center are made easily accessible throughout the school. This requires the equipping of classrooms to make effective use of all kinds of materials. Also necessary are the staff, facilities, and organizational arrangements to make this extension of the media center's program possible.

2. Collections of materials are available to classrooms on a long or short term loan basis.

3. Other designs for accessibility range from decentralization (multiple media centers based on subject or grade level divisions and not on form of media) through one or more forms of auxiliary centers which supplement the main center (see Chapter V), to television, dial access and print-out capability. It must be emphasized that the success of any plan involving a systematic decentralization of resources is dependent on the presence of media specialists in the auxiliary media centers, branch resource centers, satellite centers or however they are designated. Experience has proved that the failure to provide for adequate staff has resulted in poor utilization of the resources.

4. It is the responsibility of the head of the media program to administer and organize all materials in the school. Although materials are present throughout the school, they do not become the permanent property of teachers.

5. Most of the policies applicable to making materials accessible within the media center are valid for their use in classroom collections, resource centers and elsewhere. There are withdrawal or borrowing rights, duplication of titles, a minimum of regulations, and effective promotion. The same need for providing sufficient copies of audiovisual materials exists as for books. The use of such information sources as filmstrips

and 8mm films is important and each student should be able to have his own material and the necessary equipment in the classroom as well as in the resource center.

In the Home

Resources withdrawn from the media center for home use is one method of making materials accessible in the home, and reference has already been made to the need for having generous and flexible loan and circulation policies.

It is also important for school administrators, media specialists and other teachers to keep informed about the rapidly emerging designs and revolutionary innovations for making materials available in the home and to introduce and use them whenever feasible.

Home use of audio dial access programs has been tied-in with the media center banks wherever push-button telephones or other necessary equipment are available. The learning room proposed for every home of the Columbia City[2] project makes it possible to have materials that can be tapped within the home on an unprecedented scale. Similar breakthroughs in equipment for visual access have untold possibilities for the use of materials in the home as well as in the center.

While improvements through technology appear constantly, there is not always a comparable improvement in the welfare of many families. Ultimately, schools may have to lend the necessary equipment as well as materials for home use in order to provide fair and equal opportunities for all children to share and participate in these fruits of progress. Barring the full implementation of this kind of assistance, however, it becomes more evident that extended hours of service will become necessary in the media center so that many young people may have a place - not available to them at home - to study, receive guidance, and use the resources and services of the media center program.

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2. Located in Howard County, Maryland.

NOT FOR RELEASE

IV. THE RESOURCES OF THE MEDIA CENTER: SCOPE AND EXPENDITURES

The quantitative standards recommended for the materials collection are derived from the policies, principles and guidelines dealing with the quality, currency, breadth, range, and accessibility of resources, as described in Chapter III. All materials must meet criteria for evaluation and selection and be easily accessible. Provision must be made for sufficient duplication of books, filmstrips, recordings, and other materials to meet curricular needs and other requests.

This chapter consists of four parts: the size of the media center's basic collection, the professional materials for the faculty, supplemental and other materials, and expenditures.

Size of the Media Center's Basic Collections

The following standards are recommended for schools of 250 students or over and exclude professional materials for the faculty and materials in supplementary collections:

Books	6,000-10,000 titles representing 10,000 volumes or 20 volumes per student, whichever is greater
Magazines	
Elementary school (K-VI)	40-50 titles (includes adult, but not professional, periodicals for teachers)
Elementary school (K-VIII)	50-75 titles
Junior high school	100-125 titles
Secondary school	125-175 titles
All schools	In addition: necessary magazine indexes and duplication of titles and indexes as required
Newspapers	
Elementary school	3-6 titles
Junior high school	6-10 titles
Secondary school	6-10 titles

Pamphlets, Clippings, and Ephemeral Materials	Pamphlets (including government documents, catalogs of colleges, technical schools and others, and vocational information), clippings ephemeral materials appropriate to the curriculum and for other interests of students
Filmstrips	500-1,000 titles, representing 1500 prints or 3 prints per pupil, whichever is greater (the number of titles to be increased in larger collections)
8mm Films	
Single concept	1½ films per student with at least 500 titles supplemented by duplicates
Regular length[1]	
16mm Films	Acquisition of 16mm films at the building level would depend upon extent and frequency of use of individual film titles, upon the availability of a system or district media center and its collection of film resources, and upon other factors.[2]

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[1] Because of the nature of certain media and the evolving or transitional development of others, quantitative recommendations cannot be given. Nevertheless, these materials make a unique contribution to the instructional program and co-curricular interest of students. An abundant number should be available in the media center.

[2] Absence of a quantitative recommendation should not be interpreted as meaning that it is not desirable for the media center in the individual school to have 16mm films in its collection. Former standards have indicated that a school should purchase films used six or more times a year, and that an annual rental fee for a film amounting to one-fifth or one-seventh of its purchase price generally indicates the feasibility of permanent acquisition. In at least one large metropolitan school system, experience indicated the value of a basic elementary school building collection of 300-400 film titles, with access to a central collection on a daily delivery basis.

16mm Films (Continued)	The recommendation given below is stated in terms of accessibility. The films may be owned by and borrowed from media centers in the individual school, school system, cooperative unit, or other organizational arrangement. Whatever the administrative plan may be, the films must be quickly and easily accessible to the students and teachers requiring them. Recommended is: access to a minimum of 3,000 titles supplemented by duplicates and rentals.
Tape and Disc Recordings (excluding electronic laboratory materials)	1,000-2,000 titles representing 3,000 records or tapes or 6 per student, whichever is greater (the number of titles is to be increased in larger collections)
Slides	2,000 (including all sizes of slides)
Graphic Materials	
Art Prints (reproductions)	1,000 with duplicates as needed
Pictures and Study Prints	Individual study prints and pictures for the picture and vertical file collections; in addition to individual print, access to 15 sets per teaching station[3] plus 25 sets in the media center
Other graphics[1]	Posters, photographs, charts, diagrams, graphs, and other types
Globes	
Elementary school	One globe in each classroom and two in the media center

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[3] Teaching station is defined to mean any part of the school (usually but not always a classroom) where formal instruction takes place. Media centers are not included within this definition, although it is recognized that instruction is part of the media program.

Globes (Continued)	
Secondary school	One globe per 5 teaching stations and two in the media center
All schools	In addition: special globes to be available in the media center
Maps	One map for each region studied and special maps (economic, weather, political, historical, and others) for each area studied Duplicate maps available for each class section requiring maps at the same time. Number of duplicates to be determined by sections of students and the availability of maps on transparencies and filmstrips. Wall maps for classrooms.
Microform	To be purchased as available on topics in curriculum. All periodical subscriptions indexed in *Reader's Guide* and newspaper files to be obtained as needed for reference.
Transparencies	2,000 transparencies, including a selection of subject matter masters
Other Materials[1]	
Programed instructional materials	Printed, electronic, and other forms of programed materials
Realia	Models, dioramas, replicas, and other types of realia
Kits	
Art objects	
Video tape recordings	
Dial access programs	
Resource files	

Professional Materials for the Faculty

Administrators, classroom teachers, media specialists, and other members of the faculty need to have easy access to professional materials for quick consultation and reference. These materials are needed so that the staff may keep abreast of trends, developments, techniques, research and experimentation both in general and specialized educational fields and for professional advancement.

The collection of professional materials in a system or regional center does not obviate the necessity for a professional collection in the school building. Professional materials in the larger center are supplementary in nature. Except for a few basic reference tools, the collection in the building emphasizes currency; that in the system or regional center has current materials but also serves as the source for older, still useful, materials which teachers may need to consult, for materials not available in quantity for wide and general distribution, for highly specialized and scholarly journals and monographs, for most films, and other types of materials (described in Chapter VI).

If it were left entirely to the system center to supply and to circulate current educational works, magazines, and other materials, many additional duplicate copies would have to be purchased for the system center collection to meet the demands of all the faculties at the building level. Perhaps the most cogent argument for the building collection is the fact that easy accessibility will make for more use of the materials.

Recommended for the professional collection of books and periodicals in schools of 250 students or over are:

Books	200-1,000 titles
Magazines	40-50 professional titles, with duplicates as needed
Courses of Study, Curriculum Guides	To be acquired as needed for team teaching and other aspects of the instructional program (Many materials of this nature will be obtained or borrowed from district, regional or state centers)

Teacher's Manuals	At least one copy for each basic text used in the school and additional manuals for all supplementary texts; guides for television programs, films, radio programs, museums, and others

Additional Materials

Government documents
Films and filmstrips
Pamphlets
Brochures and releases on workshops, institutes, courses, etc. for continuing education
Education materials released by the state and community
Announcements of professional meetings
Releases of teachers' organizations and associations

In addition to the usual areas of general and specialized education represented, it is important to have works in such background subjects as communications, sociology, anthropology, behavioral psychology, symbolism and imagery, linguistics, philosophy, and others. Paperback books are readily and inexpensively available in many of these areas, making it economically possible for every school to have a valuable and stimulating collection for the teaching staff. Some of these titles, useful to secondary students in their research, will be duplicated in the collection of the media center.

The head of the media center, as the official administrator of the professional collection, observes the same principles for service in this aspect of the media program as elsewhere:

1. Only worthwhile materials are obtained and teachers are involved in their selection.

2. Materials are made easily accessible and are circulated to teachers for use in the classroom or at home.

3. Duplicate copies are purchased as the demand requires.

4. The collection is kept up-to-date.

5. Materials are borrowed from the system or regional center to meet specific request of teachers or to bring an assortment of materials to the attention of the faculty.

The professional collection is housed in a convenient location, affording privacy for the teachers. The surroundings are attractive and comfortable. The area in which the collection is located is equipped for use of audiovisual materials. The media center keeps teachers informed of materials added to the collection and brings to their attention specific items, print or non-print, that will be of particular interest or value. The services of the media center include making facsimile reproductions of content, when requested, for those materials not subject to copyright restrictions.

The trend is in the direction of making the professional collection available to parents. This wider audience may require the acquisition of materials with which teachers have been familiar and of duplication to meet increased demands and use.

Local situations may dictate various applications of the general principles stated above. The organization of the school's instructional program or architectural plan may require several resource centers for teachers in an individual school. In some existing situations separate resource centers are provided for teaching teams and for teachers in schools within a school. These collections are part of the suites or areas allocated to those aspects of the instructional program.

Other Materials

Where the acquisition of classroom and departmental collections is based on cooperative selection, and the materials are readily available to students and faculty, these collections are used to greater advantage. It is expected that the faculty make recommendations for the acquisition of required supplementary materials but more efficient organization and use is possible when these are acquired, processed and recorded through the central agency of the media center. Basic information tools such as encyclopedias, dictionaries, globes and other similar materials will be available in classrooms for indefinite loan periods but remain the responsibility of the center for upkeep and replacement.

Supplementary resources such as sets of textbooks, magazines, newspapers and audiovisual materials, whenever needed in the classroom or elsewhere in the school, are arranged for through the media center.

Methods of administering textbooks which students are required to have vary among schools but there is widespread agreement, at least on a theoretical level, that these fall within the organizational framework of the media center and should be administered by the head of the media center. It has already been indicated that the media specialists are included in the committees responsible for the selection of textbook materials. It must be emphasized, however, that if the responsibility for the acquisition, organization, distribution, collection, and maintenance of textbooks is delegated to the media center, additional staff, space, and funds must be provided, beyond those recommended in this publication. Most of the work should be performed by clerical workers and not by media specialists whose functions, in these situations, are properly supervisory in nature.

Paperbacks may be used as basic textbooks and, as such, should be provided by the school. Other paperbacks in large quantities are part of the media center's regular collection. If teachers wish to have a collection of paperbacks accessible in the classroom, these are made available from the media center's collection as part of the regular program by which the center provides teachers with all kinds of materials. The question of whether media centers should sell paperback books cannot be answered by any hard and fast regulations except to state that handling sales routines should not involve professional staff. The selection of paperbacks for sale in the center, the school bookstore, or elsewhere, does involve the professional competencies of the media specialists.

Expenditures

To maintain an up-to-date collection of materials in the media center not less than 6 per cent of the national average per pupil cost (for average daily attendance) should be spent per year per student.

As a result of recommendations from school administrators and other specialists, the amount recommended for annual expenditures for materials in the media center is expressed in a single figure. Flexibility is desirable in order to achieve a balanced program and to meet the quantitative standards for the varied materials, but ordinarily no less than half of the annual appropriation for materials should be spent on either printed or audiovisual materials.

Where there is no system supervisor or system head of the media program, the allocation of funds shall be made to each building media program at the recommended rate of 6 per cent of the per pupil cost noted above. Per pupil cost means the total operational cost, not just the instructional cost, and covers Series 100-800, as defined in school accounting procedures released by the United States Office of Education.[4] It is important that no schools, in providing annual funds for materials, fall below 6 per cent per student per year of the national average of $619 per pupil operational costs (for average daily attendance). Schools spending less than this amount for operational costs would still need to appropriate funds for resources on the basis of the national average in order to have sufficient resources for teaching and learning. Many schools spending more than the national average of per pupil operational cost will want to use their own per pupil expenditure figure as the base for the 6 per cent appropriation for resources so that a high quality media program can be developed and maintained.

Where there are two system media supervisors, one for audiovisual and one for school libraries, each shall have administrative responsibility for the expenditure of funds appropriate in amount for the resources in his area (ordinarily not less than 3 per cent of the per pupil cost as noted above).

Recommendations for expenditures take into consideration the materials needed to implement the teaching and learning programs of schools which stress learning through inquiry and place a high premium on individualization in the educational process. Special programs and curricular experimentation may require an upward revision of the amount suggested.

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[4] The series are Administration, Instruction, Attendance Services, Health Services, Pupil Transportation Services, Operation of Plant, Maintenance of Plant, and Fixed Charges, as described in the United States Office of Education publication, Financial Accounting for Local and State Systems: Standard Receipt and Expenditure Accounts, compiled by Paul L. Reason, Alpheus L. White, and others (published in 1957-reprinted in 1965).

The recommended figure stated here provides for the acquisition of newly published or produced materials of value to the media program, materials needed for the instructional program other than currently released materials, replacements of titles, and acquisition of needed duplicates. Not included in this figure are funds needed to provide school adopted textbooks, reference materials housed permanently in classrooms, closed circuit television installations, electronic learning centers, the processing of materials, supplies, equipment, and subscription television.

The initial collections of all materials in newly established media centers are to be purchased out of capital outlay and are not considered as part of the current operational costs. Additional funds will be required to augment the annual budget described above while schools are building their resources toward the suggested standards for materials of all kinds.

MEDIA CENTER FACILITIES

The standards recommended for the facilities of the media center are related to the school's instructional program as are the standards for personnel, resources, and other aspects of the media center program. Sections of this chapter deal with location and environment space, and equipment. Schools which offer strong programs in individualized learning and encourage experimentation in the teaching process may find the recommendations not sufficiently high for their purposes.

Location and Environment

Reference has already been made in this publication to the variations which may exist in the design, arrangement, and organization of media centers. Application of the recommendations for space given here may therefore have to be expanded or adapted to meet the needs of the instructional program of a particular school, and to fit functionally into the architectural design of a building. Among the variations which schools find successful are the establishing of a main media center augmented by auxiliary media centers structured according to grade levels, or on the basis of subject area specialties. Where there is a very large student population, such as schools with 3,000 or more students, or an instructional program which emphasizes special teaching techniques, of which team teaching and individualized learning are examples, or where the architectural design has arranged for a campus-type school or schools within a school, it is likely that an effective media program will best be implemented by setting up such multiple centers, under the general administration of the main media center in the building.

Where there is more than one center, each must provide adequately for: circulation procedures; reference and information services; catalog duplication; materials; reading, listening and viewing activities; staff work and activities; and conference and classroom uses. Good service has always meant duplication of materials in order to provide for all needs, and the existence of more than one media center does not, therefore, indicate pointless and expensive duplication.

In a complex of multiple centers some space can be designated for the centralization of certain processes (e.g., acquisitions, repair, and maintenance), for delivery of materials, and for storage. Decentralization does not necessarily mean geographical separation. Multiple media centers can be arranged in a sequence of separate but adjacent areas. Accessibility and service as well as architecture determine location. Completely undesirable is having a single, gigantic area in order to meet the standards for space. In schools where the standard for the percentage of student enrollment would exceed a seating capacity of 100, and there is one center, the space of the center can be sub-divided, with several areas within the one center.

The center is located away from noise areas and in a place easily accessible to students and teachers. The location and design permit use of the center before and after school hours during the day, evenings, Saturdays, and vacations. This accessibility requires that the center be able to be closed off from the rest of the building while still retaining adequate maintenance and security at reasonable costs, thereby necessitating an outside entrance.

The arrangement of the media center is functional in design and the decoration is attractive and colorful in appearance. The overall design of the center should reflect not only efficiency as a place for learning but also those esthetic qualities which will invite student and faculty use. It is essential that the media center have good lighting, acoustical control, heating, and air-conditioning. Temperature and humidity control is necessary for the proper preservation of films, transparencies, and other materials. There must be a sufficient number of electrical outlets and also the needed electrical power for peak loads of use. A telephone outlet is needed in the office area and possibly in other areas. There should be an intercommunication outlet in the office area and elsewhere as needed. Light switches, electrical outlets, power grids, thermostats, telephone, and fire extinguishers are located where they do not use space needed for shelving, and are convenient. Floor outlets are included as needed. Floor covering is made of noise-reducing materials and must meet acceptable light reflectivity standards. Wall-to-wall carpeting is recommended.

The specifications for space noted below are on a basis of 1000 students or fewer. In schools with 2,000 students these specifications will be doubled. In schools of any size, sub-centers, satellite centers, or resource centers may be provided in addition to the main media center as needed by the instructional program. It must be pointed out that the existence of sub-centers does not change the space requirements in the main center.

The recommendations for space for the media program are as follows:

Functions	Special Aspects	Space in Square Feet
Entrance Circulation and distribution	Displays and exhibits; copying equipment; card catalogs; ready reference for magazine use	800-1000
Reading and browsing Individual viewing and listening Individual study and learning Storytelling (elementary schools) Information services	No more than 100 students should be seated in one area. 30-40 per cent of seating capacity for individual study areas, equipped with power and capability of electronic and response systems. Area should be ducted for power and coaxial distribution. Where carrels are used, suggested size is 36" wide and 24" deep, equipped with shelving, and media facilities. Linear and other types of shelving for all types of materials.	Space based on 15 per cent of student enrollment at 40 square feet per student. The instructional program in some schools may require that 1/3 to 3/4 of the student population be accommodated in the media center(s).
Conference rooms	Movable walls to allow for combining areas; with outlets and acoustical treatment; possibility of one room with typewriters for student typing	3-6 rooms each 150 square feet

Functions	Special Aspects	Space in Square Feet
Small group viewing and listening	In addition to conference rooms	200
Research instruction, and group projects	Flexible space, the equivalent of classroom area, equipped for instructional purposes and needs	900-1000
Administration	Office space for 4 professional staff members; program planning area	600-800
Workroom	This size is adequate when centralized services are available from the district or system center	300-400
Maintenance and repair service	Major service to come from district or system center	120-200
Center for professional materials for faculty	Designed as a teachers' conference room; adjacent to production area	600-800
Media production laboratory	Sinks, running water, outlets	800-1000
Dark room with light locks	Light-proof	150-200
Materials and equipment storage for production	Air-conditioned	120
Stacks	For overflow or infrequently used books	400-800

Functions	Special Aspects	Space in Square Feet
Magazine storage	Readily accessible to distribution point	250-400
Audiovisual equipment distribution from the system center, and storage	Decentralized in large schools	400-600
Optional Space (determined by school program)		
Television	Studio ceilings 15 feet high, doors 14 feet x 12 feet	40 feet x 40 feet studio with necessary control space
Storage	For television properties, visuals, etc.	800-1000
Office with work space	May be used for rehearsal. Place back-to-back with television studio.	1200
Radio		20 feet x 25 feet studio with necessary control space; may be near television facilities
Computerized learning laboratory	Facilities to have response capability	900-1000
Storage and control center for dial access		900-1000

Equipment

Specifications are readily available from many sources for shelving, tables, and chairs. Measurements in height and width recognize the physical differences of children at the elementary and secondary levels. Shelving is adjustable and sufficient in linear feet to provide for the housing of the number and kinds of materials (see Chapter IV) and for expansion. Wall shelving is preferable in order to allow maximum floor space area for use by students and teachers.

Special shelving, or cabinets, must be provided for such materials as picture books, records, tapes, filmstrips, films, magazines, microfilm, transparencies, maps, graphs, and pictures. In some schools nonprint materials are interfiled with the print materials and this decision will affect the type of shelving or storage selected.

It is unnecessary to list in this publication the many standard items customarily used in libraries since that information also appears in many sources. Such an enumeration would include charging desks, charging systems, catalog card cabinets, book trucks, atlas and dictionary stands, newspaper racks, office furniture, informal furniture, filing cabinets, telephones with direct lines, adding machines, typewriters, cushions and hassocks for storytelling (in elementary schools), exhibit cases and other traditional equipment.

The items described in this section represent the additional instructional equipment needed to meet the multi-media approach which excellent teaching and effective learning demand from the school media program. Specified quantities have been stated in two columns. The basic specification represents quantities needed for a functioning program, more traditional in nature. The advanced recommendations represent quantities that will be needed in those schools with new instructional approaches such as individualization of instruction and independent study. It is recognized that in certain types of innovative programs even the advanced level will necessarily need to be exceeded.

	Basic[1]	Advanced[1]
16mm sound projector	1 per 4 teaching stations plus 2 per media center	1 per 2 teaching stations plus 5 per media center
8mm projector (only equipment for which material exists at the appropriate school level should be procured)	1 per 3 teaching stations plus 15 per media center	1 per teaching station plus 15 per media center

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[1] The definition for the teaching station, a term used throughout the chapter, is defined on page ________.

	Basic	Advanced
2x2 slide projector remotely controlled	1 per 5 teaching stations plus 2 per media center	1 per 3 teaching stations plus 5 per media center
Filmstrip or combination filmstrip-slide projector	1 per 3 teaching stations plus 1 per media center	1 per teaching station plus 4 per media center
Sound filmstrip projector	1 per 10 teaching stations plus 1 per media center	1 per 5 teaching stations plus 2 per media center
10x10 overhead projector	1 per teaching station plus 2 per media center	1 per teaching station plus 4 per media center
Opaque projector	1 per 25 teaching stations or 1 per floor in multi-floor buildings	1 per 15 teaching stations plus 2 per media center
Filmstrip Viewer	1 per teaching station plus the equivalent of 1 per 2 teaching stations in media center in elementary schools and 1 per 3 teaching stations in the media center in secondary schools	3 per teaching station plus the equivalent of 1 per 2 teaching stations in media center in elementary schools; 3 per teaching station plus the equivalent of 1 per teaching station in the media center in secondary schools
2x2 slide viewer	1 per 5 teaching stations plus 1 per media center	1 per teaching station plus 1 per media center
TV receiver (minimum 23" screen)	1 per teaching station where programs are available	1 per 24 students, if programs are available, in elementary schools, and 1 per 20 viewers in classroom, where programs are available, in secondary schools; plus 1 per media center in both elementary schools and secondary schools

	Basic	Advanced
Micro-projector	1 per 20 teaching stations	1 per 2 grade levels in an elementary school 1 per department where applicable in secondary schools and 1 per media center
Record player	1 per teaching station K-3; 1 per grade level , 4-6; 1 per 15 teaching stations in secondary schools; 1 set of earphones per each record player	1 per teaching station, K-6, in elementary schools plus 5 per media center, and 1 per 5 teaching stations plus 5 per media center in secondary schools, with earphones for each player
Audio tape recorders	1 per 2 teaching stations in elementary schools plus 2 per media center, 1 per 10 teaching stations in secondary schools plus 2 per media center. One set of earphones for each recorder	1 per teaching station plus 10 per media center in elementary schools, 1 per 5 teaching stations plus 10 per media center in secondary schools; one set of earphones for each recorder
Listening station	A portable listening station with 6-10 sets of earphones at the ratio of 1 per 3 teaching stations	One set of 6-10 earphones and listening equipment for each teaching station and media center
Projection cart	1 per portable piece of equipment, purchased at the time equipment is obtained	
Projection screen	1 permanently mounted screen per classroom plus portable screens as needed. Permanent screen no smaller than 70x70 with keystone eliminator.	

	Basic	Advanced
Closed-circuit TV	All new construction should include provisions for installation at each teaching station and media center. Older buildings should be wired for closed-circuit television with initiation of such programs.	
Radio receiver (AM-FM)	1 per media center plus central distribution system (AM-FM)	3 per media center plus central distribution system (AM-FM)
Copying machine	1 per 30 teaching stations plus 1 per media center	1 per 20 teaching stations plus 1 per media center
Duplicating machine	1 per 30 teaching stations plus 1 per media center	1 per 20 teaching stations plus 1 per media center
Micro-readers some with microfiche attachment	Equivalent of 1 per 10 teaching stations to be located in the media center	Equivalent of 1 per 5 teaching stations to be located in the media center
Micro-reader printer	1 per center	3 per center
Video tape recorder system (including cameras)	1 per 15 teaching stations with a minimum of 2 recorders per building	1 per 5 teaching stations with a minimum of 2 per building
Light control	Adequate light control in every classroom and media center. Adequate is interpreted to mean light control to the extent that all types of projected media can be utilized effectively.	
Local production equipment	Per building: Dry mount press and tacking iron Paper cutters Two types of transparency production equipment	

Local production equipment

Per building: (Continued)

16mm camera
8mm camera
Rapid process camera
Equipment for darkroom
Spirit duplicator
Primary typewriter
Copy camera and stand
Light box
35mm still camera
Film rewind
Film splicer (8mm and 16mm)
Tape splicer
Slide reproducer
Mechanical lettering devices
Portable chalkboard

Items for special consideration

Large group instruction

The following equipment should be available for each large group instruction area:

10x10 overhead, auditorium type; large screen with keystone eliminator; 16mm projector, auditorium type (consideration should be given to the possible use of rear screen projection techniques)

Television

A complete distribution system should be available in a building so that: broadcast TV can be received 2500 MHZ, UHF, or VHF; signals can be distributed to each room from the central TV reception area and/or from a central studio. Signals can be fed into the system from any classroom; signals are available simultaneously.

3¼x4 Projectors

If still used by teachers at the school building, there should be 1 per school building plus 1 auditorium type per each large group instructional area.

Equipment to make tele-lecture available

NOT FOR RELEASE

VI. SYSTEM SUPPORT OF THE SCHOOL MEDIA PROGRAM

Effective media programs at the building level require supplementary or back-up services from media centers located in the headquarters of larger administrative units. Important also is leadership which will strive for pervasive excellence, rather than isolated examples of outstanding media programs. The goal is to insure service to all pupils and teachers and to provide quality education in all schools.

While it is not possible to designate any one plan as a model since these are affected by local and state policies, laws and regulations, and final conclusions must be based on objective studies still to be made, the following are examples of larger units of organization:

I. A. The center for a school system or district
  B. The center for multi-school systems or districts, including cooperative school services
II. Regional centers within the state (which may be under the direction of the state center or state departments of education)
III. The state center

Some responsibilities are unique to specific levels of organization; others appear at all levels, varying only in degree. An outstanding exception would be national and larger regional centers designed to provide in depth, through the use of computer systems and electronic retrieval, a bibliographic apparatus for the evaluation, selection, analysis, and use of materials.

In this chapter the content deals primarily with system support of the school building, and principles relating to services and staff, collections of materials, expenditures, and facilities are presented. Quantitative standards are not indicated. Other sections deal briefly with the state media program, regional media centers, cooperation among libraries, and national planning for media services.

System Media Centers

Whether the system center is planned for a single school system or for several systems with contractual cooperative arrangements depends on the number of schools involved, local policies, legal controls, geographical and demographic factors, and other considerations. Organizational plans for media centers serving more than one school system include: boards of cooperative services, the intermediate unit, the county district, mutual agreement contracts of less formally organized nature, and special projects funded by state and federal grants. Large school systems generally maintain a single center; very large school systems may have branches of this center or their equivalent located in district offices within the system. Regardless of the number of schools in a system, certain services should be provided by some larger organizational unit. Furthermore, experience has indicated that those schools which enjoy the availability of system media services under the direction of qualified media supervisors are providing more effective education for their students.

Services and Staff

A unified media program is desirable at the system level for the same reasons advanced for the media center at the building level. The services provided by the system media center are essentially administrative and advisory, with qualifications for personnel at the system level of a higher degree of specialization than at the building level. The functions of the director of the system (multi-school, county) media program are to:

1. Plan and develop media programs in the system's schools.
2. Guide and coordinate the selection and evaluation of instructional materials and other teaching resources; assist in selection of textbooks.
3. Manage the organization, distribution, and maintenance of instructional materials and equipment.
4. Work with teachers, curriculum specialists, and other school personnel in planning the instructional program and materials.
5. Conduct in-service programs for teachers, supervisors, and media center staffs in the use of media materials and equipment.
6. Conduct experimentation, evaluation, and demonstrations of media programs.
7. Develop media budgets and supervise the expenditures.
8. Interpret the media program to school administrators and the community.
9. Determine staff requirements and participate in the selection of media center personnel.

to accomplish the functions listed above must be provided if the media center at the building level is to discharge its responsibility fully. The back-up services needed by the media center in the school include support in instructional matters, personnel, and budget; in-service education; selection, evaluation, production, processing and maintenance of materials; and special services (as for exceptional, physically handicapped, non-English speaking, and other students). In the past, the professional staff of the system media center has had to devote most of its time to purely administrative, technical and business matters. With the provision of sufficient professional and supportive staff members, the system media specialists can assume in full degree their responsibilities as curriculum consultants, participants in planning and developing instructional and communications programs, experts in the learning process, and materials specialists.

In addition to the number of professional personnel deemed necessary to implement the system media program, the system media center will require a supportive staff of media aides, technicians and other personnel to perform the following duties; clerical and secretarial work, maintenance (packing, shipping, checking, repairing, etc), bibliographic searching, filing, keeping records, mechanical processing, handling of telephone and teletype requests, and the delivery of materials and equipment.

Materials Collections

The range of services offered by the system media center will determine the kinds of resource collections it keeps. The following are representative:

1. A collection of professional materials is available for teachers, media specialists, administrators, curriculum specialists, and other staff members for use in and circulation from the system center. (These collections are larger than those provided in individual schools and do not obviate the need for working collections in the media center at the building level.) Photocopies of magazine articles and parts of books are made available, depending on copyright regulations. The collection should be available after school hours, on Saturdays, and during vacation periods. Additional materials include pamphlets, audiovisual materials of a professional nature and copies of instructional materials (units of study, class projects, course outlines, and similar materials) developed in the local schools, in the state, or elsewhere.

10. Submit proposals for innovative programs when feasible.
11. Supervise centralized processing of materials.
12. Assume responsibility for such activities and services as production of materials, television and radio programs, electron banks of materials.
13. Make necessary preparations for media centers and programs in new schools and serve as consultant for the school architect in designing the facilities for new centers, or in the renovation of existing facilities.
14. Maintain liaison with other supervisory staff, with state and national media personnel, and with professional associations.

With the enormous increase in the kinds (format) and amounts of materials becoming available, evaluation of these materials merits attention here. Evaluation is done under the direction of the system director, with the assistance of specialists on the system staff and media specialists from the schools, either collectively or through committees. While the final authority for the selection of materials for the school system rests with the director of the system media center, the responsibility for the selection of materials for a particular school remains with the head of the media center of that school. Recommendations for size and qualifications of staff in schools and system centers take cognizance of the great importance of sound evaluation and selection of educational resources. Additional services provided by the director and his staff relating to resources are described in the following section on materials collections.

The director or supervisor carries out the functions noted above with the assistance of media specialists, technicians, and media aides on the staff of the system media center. Competencies in the various curricular areas to be represented by subject specialization among staff members are desirable and urgently needed. In view of the need to keep abreast of developments in the field, some specialization in form of media is also necessary, but this should not hinder the cross-media or multi-sensory approach to the use of materials.

Quantitative standards for staff at the system center are not included here. It is emphasized, however, that staff in sufficient numbers and in a variety of competencies

2. The system center has a collection of books and other resources needed by the staff of the district media center in connection with ongoing activities, e.g., special tools used in technical processing and duplicate copies of bibliographic and reference materials.

3. If the system media center offers supplementary reference services to the school media centers, the reference collection customarily found in the system center will have to be expanded in scope and depth.

4. Supplementary resources that are expensive, infrequently used, or highly specialized in nature may be available in the system center for loan to school media centers for use by teachers and students.

5. The system center may act as a clearing house for interlibrary loans of materials from one school media center to another.

6. Collections of periodicals beyond those customarily housed in the building center can be made available through the system center. These would include current issues of scholarly, specialized, technical, or foreign magazines not subscribed to by the school media center. Available in microform would be back issues of these as well as of magazines and newspapers subscribed to by the school media center. System services that supply, in response to telephone or other forms of request, facsimile copies of magazine articles needed by teachers or students, are valuable if promptly executed, and if possible within copyright laws.

7. The system center must have a wide range of films easily accessible and in duplication, as the demands dictate. Films are lent to schools, through the channel of the building center. Rental of films may be handled by either the system or school center, whichever provides the fastest and most efficient service. Of prime importance is the immediate availability of the film when requested by the teachers. The expense of films is, in the final analysis, not as costly as the handicapping of the instructional plans of teachers.

8. The archives, housed in the system media center, include all material of an historical nature relating to the schools and system(s) served by the center: annual

reports, records, and similar documents; publicity items, files of school newspapers, magazines, yearbooks, and other publications; other comparable materials.

9. Where financially feasible, the system maintains examination copies of the trade books, textbooks and other instructional materials suitable for children and young adults. These are usually volumes which have been approved by selection committees and are made available to media specialists, teachers, and other personnel for examination before acquiring them in the school media center or in connection with instructional planning. Policy endorsed by the American Association of School Librarians stipulates that books assembled for these examination purposes should be purchased, except in the case of very large school systems. Consequently, few system centers can or should afford collections extensive enough to meet the purpose for which these collections are intended, and they must depend on media centers in larger organizational units for these resources. The same principles apply to similar collections of other types of materials.

Expenditures

When materials to be located permanently in the schools are purchased through and by the office of the district or system center, the amount of funds for these materials totals at least the sum of the standard expenditures recommended on page ___. The system center's collection of resources needs additional funds to provide for (1) supplementary resources for use on the schools, (2) materials acquired for examination and demonstration purposes in the center, (3) needs connected with the ongoing work of the district professional staff, (4) reference and information purposes, (5) the professional collection for teachers, administrators, curriculum specialists, and other staff and (6) archives.

The budget must take cognizance of the number and kind of personnel required, as well as of such items as expenses incurred by the director and other staff members in travel for professional purposes. Funds must also be appropriated for supplies and equipment, communications services, postage and shipping, delivery services, and printing. These last expenditures may be contained in the budget for capital outlay and operational costs for the school system as a whole, or as part of the funds in these categories allocated for the total range of activities conducted in the school's system center.

Facilities

Considerable experimentation is underway in planning facilities for system media centers. Variations in local organization and the relative newness of regional centers within a state make it difficult to make precise recommendations at this stage. Recommendations noted in types of areas that need to be provided and some of their special features. It is assumed that most electronic processing and also electronic media programing would be done at the regional level; very large school systems would be the equivalent of one or more of these larger organizational units.

Requirements for the system media center include:

Area	Space Requirements for:
Service collections of materials (professional material, archives, reference/information tools)	Reading, listening, and viewing; circulation
Film depository	Viewing; film and equipment storage; staff activities; maintenance
Magazines and Newspapers	Storage; reading, including micro-readers, some with print-out capability; staff activities
Production and reproduction	Staff activities; equipment; storage
Television and radio	Studios; storage; control room; office; staff activities
Administration	Offices for director and executive staff
Photography	Staff activities; dark room
Processing	Staff activities; shelving (bins) for materials in process
Union catalog	

Area	Space Requirements for:
Demonstration and evaluation in-service education	Conference rooms; auditorium; classroom size space; materials and displays
Shipping and receiving (distribution)	

Provision for adequate and efficient arrangements related to the performance of the functions of the district or system media center helps to expedite from planning to implementation the educational programs in the schools.

The State Media Program

Although each state has its own unique characteristics and variations exist in number and size of schools, in number and size of school districts, in geographic conditions, in socio-economic factors, and in the stages of development of media programs at all levels (school, district, and state), some principles for state media programs can nonetheless be advanced as general guidelines.

It is recommended that all states have directors (supervisors), coordinators, or equivalent term) of school library services and of audiovisual services. A cohesive media program for the state is important if educational goals for the schools are to be fully met. This cohesive program may be achieved pro forma by a unified administrative organization or, with the proper controls and channels of cooperative planning and communication, by a coordinated administrative organization.

The state media center forms an integral part of the state department of education or public instruction, a location that assures the highest degree of participation by the director, staff, and program of the media center in the development and improvement of schools within the state and that facilitates the provision of services extended by the media center to curriculum specialists and other personnel in the department. Cooperation with the state library agency is important, and joint deliberations are in order when networks of library systems involve two or more media centers. But the state media center's primary responsibilities are with the schools and with other members of the state department working in the elementary and secondary school fields, and these can best be met when the center has membership in the close identification with that part of the structure of the state department of public instruction directly concerned with elementary and secondary education.

Regional Media Centers

Regional media centers have been started in some states and are being projected in others. They have developed with a variety of administrative structures, a few functioning as arms or branches of the state agency. An increasing number derive from local initiative through the efforts of several cooperating districts, often with the leadership of an intermediate unit of school administration, such as a county intermediate education agency, and are supported by combinations of local, state, and federal funds. Whatever the organizational pattern under which it is administered, the regional media center exists to provide services which smaller local school systems cannot easily provide for themselves.

Though services of regional media centers differ, in general they are similar to those provided by system centers in larger school systems. Often they include advisory, consultative and information services, technical processing, supplementary and special collections of resources, and a varied program of activities. Many regional centers include review and examination collections of instructional materials, selected professionally, and purchased for the use of both larger and smaller districts within the region. In-service education for teachers and media specialists is another important regional media center activity.

For very small districts the regional media center is a substitute for the system media center; for larger districts it is supplemental and a source for some services which only the largest districts can supply for their own schools.

Cooperation among Libraries

This is a period when all types of libraries are involved in state, regional, and national planning, when networks of information systems are being projected, and cooperative services among libraries are being planned or have been implemented. Several proposed state plans have a structure that includes: the library in the local agency (public, school, college, university, or special library) that serves the clientele of that agency, systems that have back-up resources and services to supplement those of the local libraries; networks of research and information centers to supplement services and resources of the systems, and some cooperative services and depositories of special resources on a statewide service basis. These plans have generally been initiated and designed by public libraries.

How the media center in a school and the district, regional, and state media centers fit into these or other proposed plans has not yet been objectively established and probably can only be determined after many contingent factors have been resolved; the provision and development of media centers that meet standards, the collection of data about the types of resources that teachers and students use and request, and the determination of optimum levels of accessibility and services.

The primary concern of the student user of libraries is the accessibility of adequate and varied materials, and the accompanying services, needed to fulfill his informational and recreational needs. The school media center is an integral part of the education program and must function in such a way as to further the objectives of the teaching-learning process for each student. The opportunity for close and continuous cooperation between teachers and media program staff members is a unique characteristic of the school media center.

Areas of common concern and cooperation between school media centers and public libraries include sharing information about assignments which require specialized materials, book information services, and places of continuing education for students. Information services and materials centers to provide needed resources for larger regions may be made available under some circumstances through the cooperative planning of the staffs of public libraries and school media centers.